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George Westinghouse

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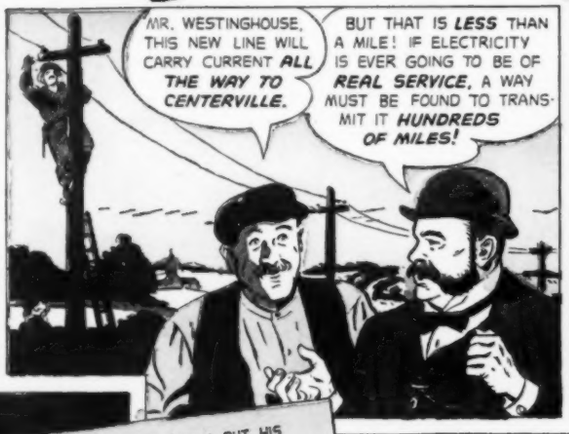
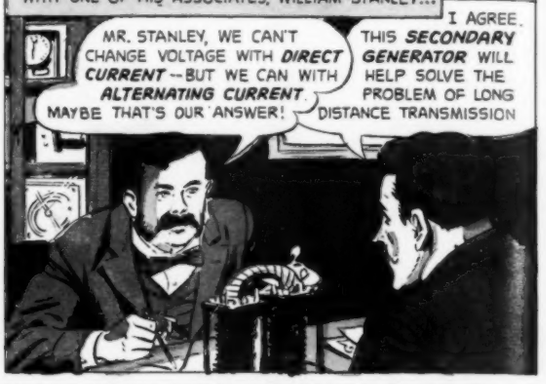
60 YEARS AGO, ELECTRIC LIGHTING, AS WE KNOW IT TODAY, WAS UNKNOWN. THIS WAS BECAUSE THERE WAS ONLY ***ONE TYPE*** OF ELECTRICITY AVAILABLE... ***DIRECT CURRENT***... WHICH WAS NOT PRACTICAL FOR TRANSMISSION OVER A GREAT DISTANCE.


MR. WESTINGHOUSE, THIS NEW LINE WILL CARRY CURRENT ***ALL THE WAY TO CENTERVILLE.***
BUT THAT IS ***LESS*** THAN A MILE! IF ELECTRICITY IS EVER GOING TO BE OF ***REAL SERVICE***, A WAY MUST BE FOUND TO TRANSMIT IT ***HUNDREDS OF MILES!***

SOON AFTERWARDS, WESTINGHOUSE TACKLED THIS PROBLEM WITH ONE OF HIS ASSOCIATES, WILLIAM STANLEY...


MR. STANLEY, WE CAN'T CHANGE VOLTAGE WITH ***DIRECT CURRENT***--BUT WE CAN WITH ***ALTERNATING CURRENT***. MAYBE THAT'S OUR ANSWER!
I AGREE. THIS ***SECONDARY GENERATOR*** WILL HELP SOLVE THE PROBLEM OF LONG DISTANCE TRANSMISSION

MEANWHILE...

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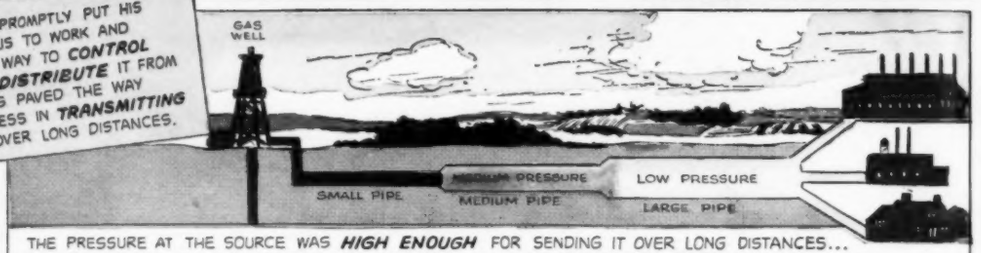
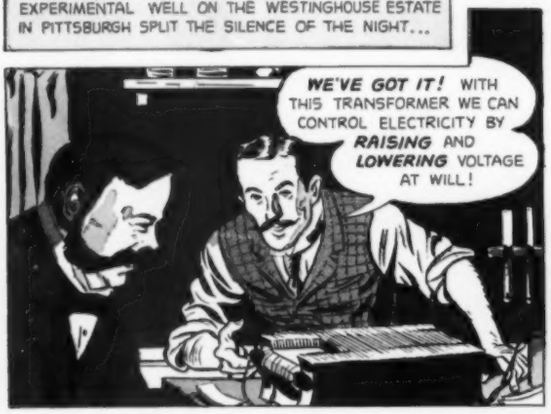
WESTINGHOUSE PROMPTLY PUT HIS INVENTIVE GENIUS TO WORK AND DISCOVERED A WAY TO ***CONTROL*** THE GAS AND ***DISTRIBUTE*** IT FROM THE WELL. THIS PAVED THE WAY FOR HIS SUCCESS IN ***TRANSMITTING*** ELECTRICITY OVER LONG DISTANCES.

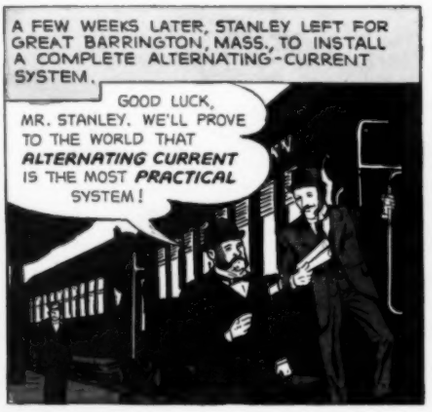


THE PRESSURE AT THE SOURCE WAS ***HIGH ENOUGH*** FOR SENDING IT OVER LONG DISTANCES... BUT ***TOO HIGH*** FOR USE. HE REDUCED THE PRESSURE BY USING ***LARGER PIPES*** ALONG THE LINE.

WESTINGHOUSE REASONED THAT A SIMILAR SYSTEM COULD BE USED FOR ELECTRICITY BY SENDING IT UNDER ***HIGH VOLTAGE***--OR PRESSURE--AND ***REDUCING*** THE VOLTAGE AT THE POINT OF USE.



A FEW WEEKS LATER, STANLEY LEFT FOR GREAT BARRINGTON, MASS., TO INSTALL A COMPLETE ALTERNATING-CURRENT SYSTEM.



ON THE HISTORIC NIGHT OF MARCH 20, 1886, THE ***MODERN AGE OF ELECTRICITY*** WAS BORN. WILLIAM STANLEY CLOSED A SWITCH IN HIS POWERHOUSE OUTSIDE GREAT BARRINGTON. INSTANTLY, ***ELECTRIC LIGHTS*** BLAZED ON MAIN STREET.

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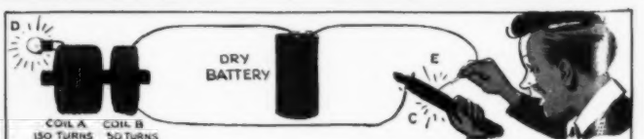

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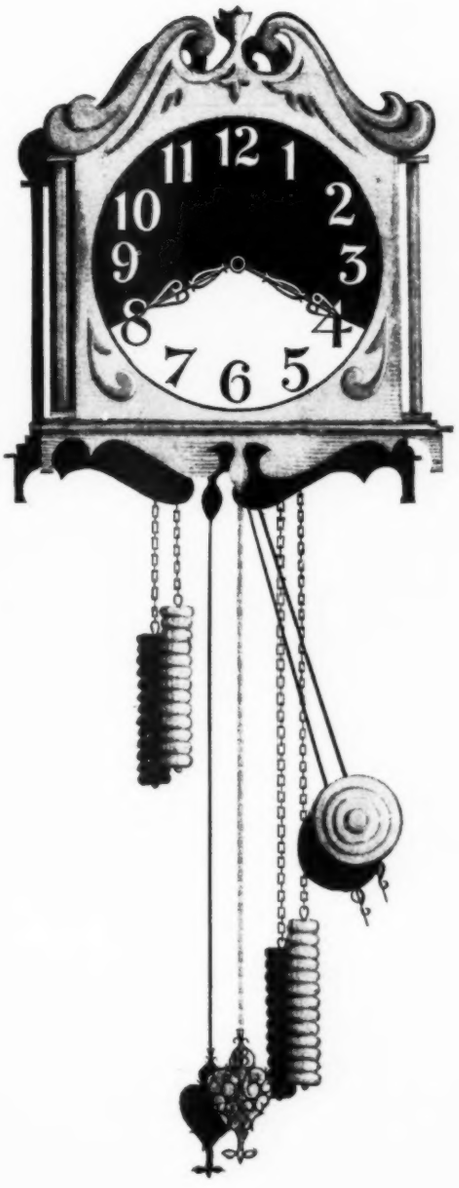

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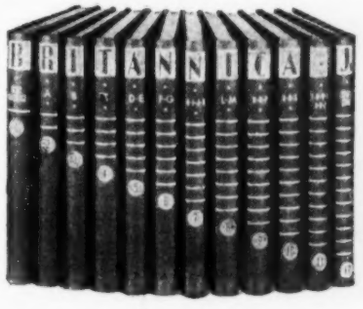

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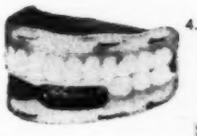

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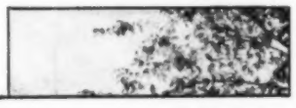

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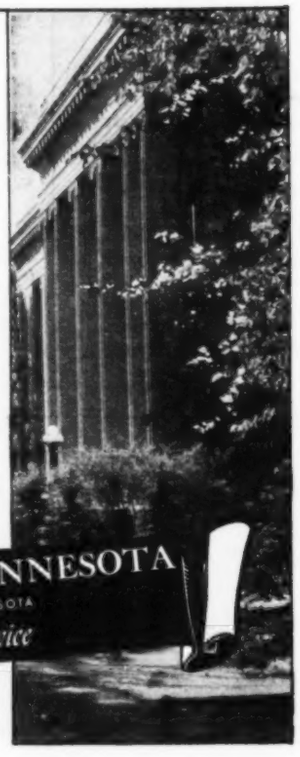

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HOW TO USE THE HANDWORK IN THIS ISSUE

JESSIE TODD
Instructor in Art, Laboratory School, University of Chicago

Page 13 THE majority of children need help in drawing people. The teacher must come down to their level in order to teach them. She must be willing to simplify the drawing by leaving out unnecessary details.

The face of a child may be made a shape approaching a circle rather than the oval used for an adult face. Curving lines above and below two open circles will represent eyes until the child artist decides to add eyelashes and other details.

Pupils in grades two and three can draw children like the two shown on this page if their attention is called to the fact that we all have necks, and that when we look at people from the front we don't see the heels of their shoes.

It is fun to make a girl's hair blowing because one can draw long sweeping rhythmic lines. If her hair is blowing, her skirt and her scarf, if she wears one, will be blowing too.

Drawing the boy's hair as if it had been blown by the wind helps to make him look like a real boy, not a sissy.

Half the fun will be to think of different kinds of clothes to draw on the children.

This page will help to correct the error so prevalent in children's work—that of drawing the head too large. Children often draw the head one quarter as large as the whole body.

We used to suggest the nose by two dots, but children often pressed so hard on dots that the whole face looked coarse. We found that a tiny curved line to suggest a nose is better and easier for children to draw.

Page 37 AFTER trimming the paper Gingerbread Boy with yarn "frosting" as suggested here, some children may ask their mothers to bake real gingerbread boys and let the children decorate them with white frosting.

Perhaps, instead of all the pupils' making gingerbread boys, some could cut out other favorite storybook characters from construction paper and give them crayon features and yarn bows also. The varied border would be interesting and the activity would be more creative.

Page 38 TAKE a square of paper the same size as the one mentioned here, fold into fourths, and cut holes out of it. Then place the resulting lacey paper over a manila sheet and color with wax crayons the areas that show through the holes.

At this point, evaluation needs to take place. Perhaps some designs look too spotty or scattered because (1) all holes have been cut too much the same size, (2) all holes have been cut too small, (3) too many colors have been used, (4) no one color holds the various parts together. Other designs may be good because these factors have been taken care of.

Another way to make square designs is to use very small checked drawing paper and draw cross stitches. Children often sense design better when the color scheme is limited.

After making many designs in squares, put some on clay tiles. They may be painted and shellacked.

Page 39 CHILDREN are often stimulated by drawing pictures on one general subject like transportation. It gives opportunity for variety. Other subjects which do this are:

1. Homes of people—apartments, hotels, cottages, farmhouses, mansions, houses in Arizona and in the South, tepees, straw huts, adobe huts.
2. Boats—dugout, sailboat, rowboat, canoe, freighter, Great Lakes passenger boat, Chinese river boat, launch, yacht.
3. The food we eat—pineapples growing, orange groves, apple orchards, lettuce, pumpkins, squash, beans, carrots, cacao, and so on.

Any big subject—like transportation, night, springtime—is good for children's art. If a child doesn't like to draw one thing, he can draw another and still be on the same general subject as his classmates.

Page 40 OLD newspapers torn into bits can be used to make papier-mâché. The texture will be coarser than when crepe paper is used, but the cost will be less.

The pupils in one second grade modeled papier-mâché cats having whiskers made of wisps of straw stuck in while the modeling mixture was still wet. They painted the cats many bright colors and added touches of sparkly copper, gold, and silver.

We have found this medium good for making a life-sized cow or other animal for a play. Make the foundation by rolling up large cylinders of paper and stuffing them with waste paper. Then put the papier-mâché all over the outside of this.

Page 41 AFTER the green crayon has been put on, the paper can be pressed on the wrong side with a warm iron. Then when the paper is cool, turn it over and put the black layer on top of the green.

Some people like a harder, smoother paper than manila drawing paper for crayon etching.

Other suggestions for art work to do in preparation for St. Patrick's Day are as follows.

1. Decorate white paper napkins with a shamrock or several shamrocks.
2. Decorate paper plates with shamrocks, along the edge where the food won't touch.
3. Make an allover design of shamrocks on ordinary newsprint paper. The paper can be used to wrap a present for St. Patrick's Day.
4. Cut a shamrock out of green paper and paste it on a place card.

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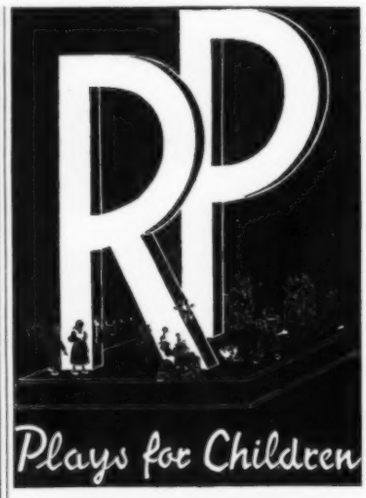

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The Children's Corner
THE INSTRUCTOR, Dansville, N.Y.

THE PUSSY WILLOW

Pussy willow, soft and gray,
Please come out and play today;
Pussy willow, let's play hide and seek,
But just be sure that *you* don't peek!

PUPILS OF GRADE 2
Union Free School, South Salem, N.Y.
ELEANOR H. MCROBERTS, *Teacher*

"This verse was written as an outcome of a discussion about pussy willows which were brought to school."

THE FLAG

The flag is red, white, and blue.
I love it, don't you?
There are thirteen stripes of red and white,
And forty-eight stars on a field of blue.
I think it is the prettiest thing
I have ever seen, don't you?

JOYCE NICHOLLS, *3rd Grade*
Travis School, Cascade, Mont.
ARLEEN LARGENT, *Teacher*

Before writing this bit of patriotic verse, Joyce had studied about the flag and drawn pictures of it.

SPRING IS HERE

Spring is here
And all the snow is past.
Maybe soon we'll have warm weather
That will last and last and last.

DOROTHY BORST, *4th Grade*
Central School, East Pembroke, N.Y.
RUTH D. GRONER, *Teacher*

Dorothy's little spring poem is almost a wish.

THE STORM

Thunder roared across the sky—
It shook the earth!
Lightning flashed!
Thunder crashed!
It made a gash
In the old oak tree
And frightened me!

MARY ANN ZLATNIK, *6th Grade*
H. P. Hamilton School, Two Rivers, Wisconsin
ELSA ROLLER, *Teacher*

This poem is full of vivid words which represent the sights and sounds accompanying a thunderstorm.

RAIN

Rain is a rascal
Who slips down the lanes.
He races with sunshine,
And taps windowpanes.
He dances in puddles
And trips in the street,
And when it gets cold
He turns into sleet.

ELAINE VON RUEDON, *7th Grade*
St. Mary's School, Grand Forks, N.D.
A SISTER OF ST. JOSEPH, *Teacher*

Elaine has personified the rain in an interesting way.

THIS TOPSY-TURVY WORLD

Don't let this topsy-turvy world get you down.
Don't let this topsy-turvy world make you frown.
Just make yourself smile from ear to ear,
And let all the world see and hear
Your pretty smile and all of your cheer.

MARY LOU EVANS, *7th Grade*
Sunny Side School, Rural, Montevideo, Minnesota
FRANCES GILSRUD, *Teacher*

There is an interesting rhyme pattern in this five-line poem, as well as some good advice.

ALL FOR SPRING

The snow-covered path is melting,
The birds are beginning to sing.
What magic is doing all of this?
Magic? Not magic. It's spring.

Spring is just around the corner
And peeping out is she.
Touching the grass so brightly,
She's looking at you and me.

The buds on the trees are opening,
The grass is green and long,
The bluebird sings in the apple tree.
Spring is here with her song.

JEANNINE HARRIS, *8th Grade*
West Grove School, Postville, Iowa
MARIAN CHRISTOFFERSON, *Teacher*

There are some very good lines in Jeannine's poem about the coming of spring. In speaking of spring, she has used a figure of speech, personification.

STARS

I've so very often wondered
What is each little star,
Twinkling there so brightly,
Shining from afar.

They shine up in the heavens.
What makes them glitter so?
Making the whole world sparkle,
Diamonds on the snow!

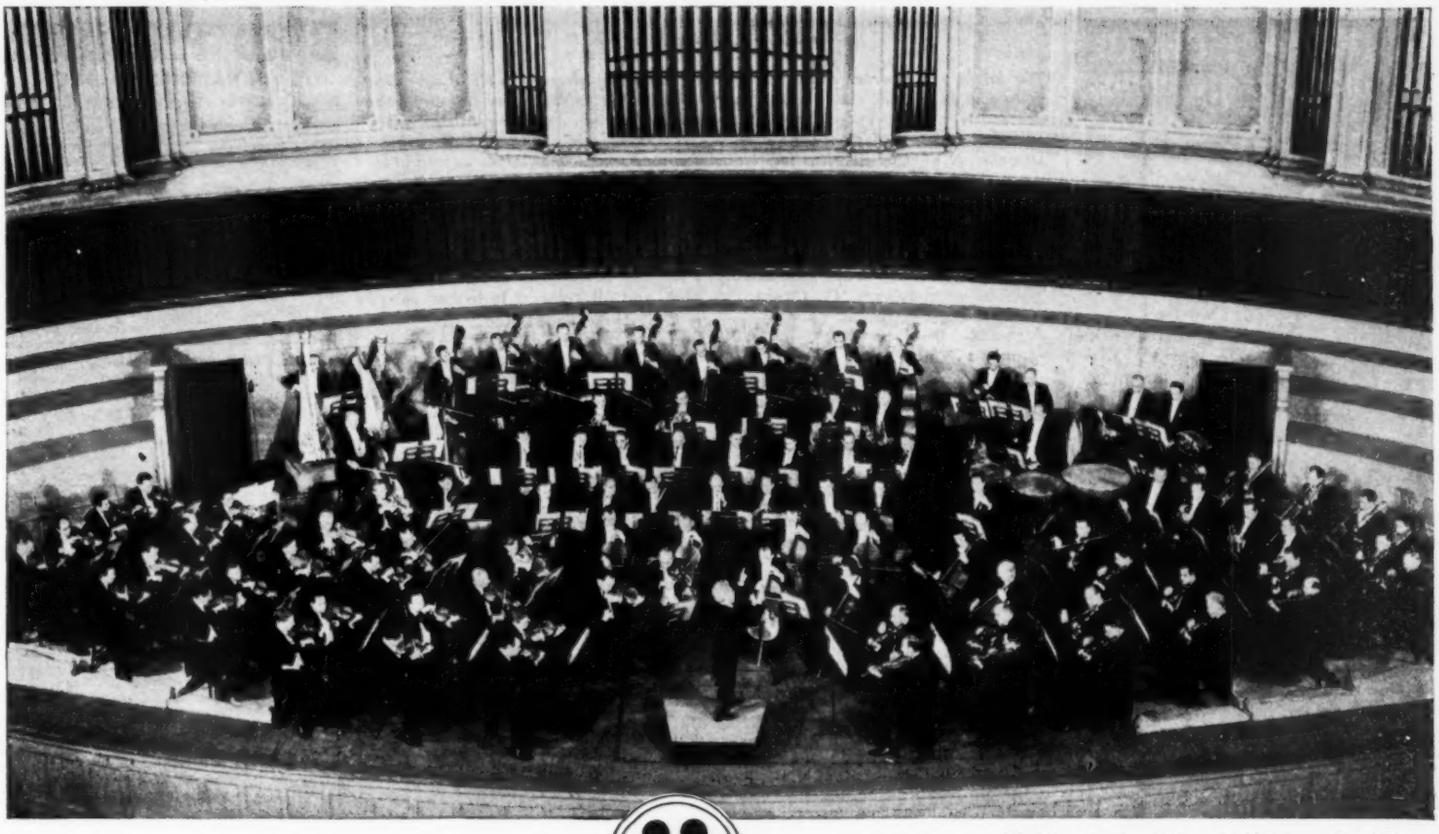
I believe that there's a curtain
Across God's azure skies
And there behind the curtain
Golden sunshine lies.

This curtain is so very old
I know that it must be worn.
No matter how careful the angels are
Small holes are sure to be torn.

Each night, when the curtain is lowered
By God's angels up on high,
The sunshine that's in the heavens,
Makes stars shine in the sky.

KATHRYN BASS, *8th Grade*
Public School, Leeds County, Ontario, Canada
VELMA O. PRYCE, *Teacher*

The idea back of this poem is quaintly conceived and cleverly carried out.



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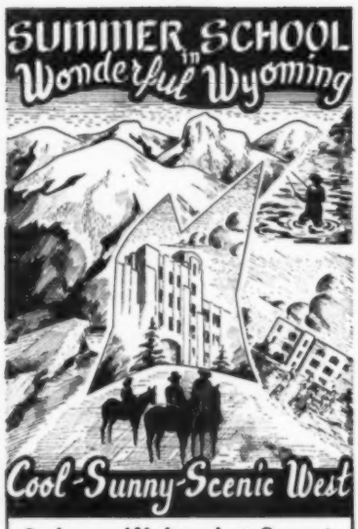

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Phyllis watched her mother stick cloves into the ham she was preparing to bake.

"Why do you nail it up?" she asked.

MABEL C. OLSON
Portland, Oregon

Lester, my three-year-old cousin, stopped to see his grandmother on the way to Sunday school. "Mamma spanked me," he told her.

On being asked what he had done, he replied, "I didn't do anything. She did it."

LOIS LAMONT
Holcomb, Illinois

My neighbor's little boy went to the store to get a quart of milk. He returned with a pint and said, "I'm sorry, the man had only little quarts like this, so I thought I had better bring it."

EUNICE FRANKLIN
Buffalo, New York

I was presenting a new addition combination in the number class of the first grade—the combination of 2 plus 3 equals 5. One of my pupils, demonstrating his reasoning powers, arrived at the sum in this manner: "Well, if 2 and 2 are four, and if 3 and 3 are six, the answer must be somewhere between 4 and 6."

WILMA JAHN
Haines, Alaska

Little Mary wrote to her father in the Army:

"Dear Daddy, we are all well and happy. The baby is growing every day and seems to have a great deal more sense than she used to have. Hoping the same of you, I remain, Your daughter, Mary."

MONYCA HENRY
Waukon, Iowa

"Mother!" remarked seven-year-old Patty, disgustedly, when she returned home from school. "I don't think our teacher knows very much. She writes on the blackboard and wants us to tell *her* the answers."

LOLA F. TAGUE
Morristown, Indiana

One day Mr. Smith, husband of the first-grade teacher, came to see her and she introduced him to the class. Jack, very much surprised, inquired, "Do teachers really have husbands?"

JEAN RICE
Roselle, New Jersey

When the first-grade pupils were learning the alphabet, each child who said the letters correctly had his name written on the blackboard. But Jane could not remember the letters in the right order. When the teacher asked, "Don't you want your name up too, Jane?" her reply was, "Oh, I don't know. You're going to erase them pretty soon anyway."

MARY JO MARTIN
Allen, Kansas

Willis Ray, aged six, came in to see his grandmother, who makes aprons to sell, and said, "Oh, Grandmother, I saw the prettiest bird! It was red, blue, and all colors. It looked as if it had rickrack on its tail."

LILLIAN WILLIS
Taylors, South Carolina

One day at school I told the story of "Ali Baba and the Forty Thieves" to a group of second-graders. Then I tested the children to see whether they remembered the magic words, "Open Sesame." One child replied instantly, "Open says I."

NELLE MCCULLOUGH
Pasadena, California

One day when Edith Ann, two and one-half years old, was walking with her grandmother, they passed some elm trees, which had been dropping their seeds. Edith Ann exclaimed, "Grandma, see all the cereal."

NORA HANSEN
Akron, Ohio

One of my third-grade boys, when asked what he would like to be when he grew up, replied, "Alive!"

LESLIE R. ZEDDIES
Racine, Wisconsin

A family had just acquired a new stove that had a modern air-control damper attached to the pipe. Three-year-old Jerry, noticing the boxlike damper, called out, "Dad, look there! We have a mailbox on our stovepipe."

HAROLD SMITH
Orchardville, Illinois

One afternoon when my young son and I were driving past a particularly lovely moss-draped wooded spot, the little fellow clutched my arm and said excitedly, "Oh, Mother, do stop the car and let me get some of that tree fur!"

RUTH LEE COILE
Pinehurst, Georgia

Tommy, a second-grader, could not seem to master his teacher's surname. One day he learned that her given name was Edna. A look of great relief flooded his face as he said, "Tomorrow when I come, I'll just say, 'Hello, Edna,' and then I won't have it wrong."

EDNA M. SPENSLEY
Buchanan, New York

My sister and I were sitting with a friend on her porch. There were only three rockers, so her little daughter, Florence, who is five years old, had to stand.

Suddenly Florence asked me, "What number comes after three?"

"Four," I answered. "Why do you ask?"

"Oh, I just wish there were four chairs here," she answered, "so I could sit down too."

GERTRUDE LINDENHEIM
Philadelphia, Pennsylvania

(*Continued on page 11*)

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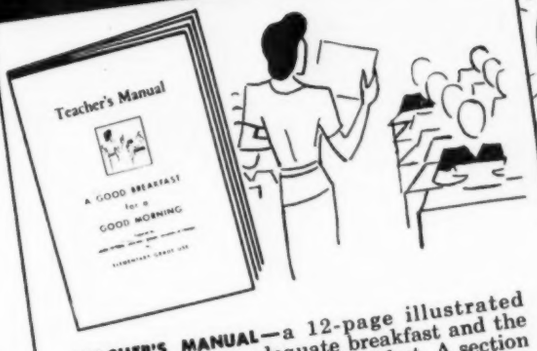

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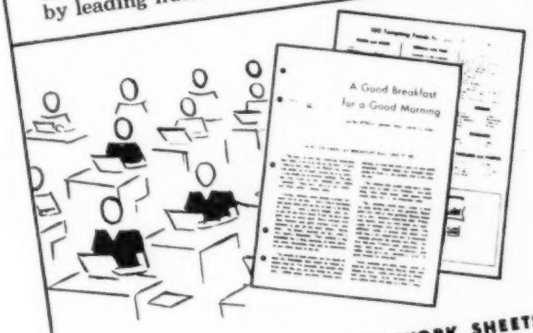

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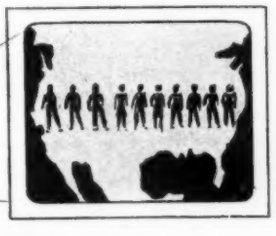

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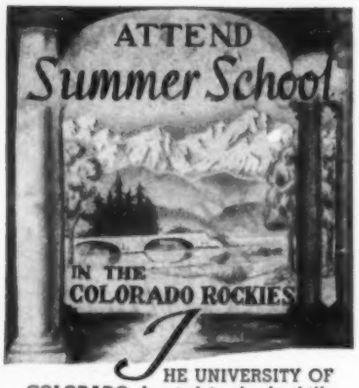

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LET'S LAUGH

(*Continued from page 8*)

My little sister had lost two front teeth. Upon being asked how she felt with two teeth missing, she replied, "My mouth feels lonesome."

EDWARD QUIGG, JR.
Brooklyn, New York

The first-grade children had been instructed to leave the room just like little mice. Carrying out instructions, they all went out *squeaking*.

KATHY WIEGEL
Hillsboro, Wisconsin

Wanda, aged four, had a new kitten. She would pick it up and pet it, then put it behind the stove, then pick it up again, and go through the same performance. When asked why she did this, she replied, "When I take all the warm off him I have to put him by the stove and get him warm again."

ANN CUNNINGHAM
Portland, Ontario

A year ago I was caring for a four-year-old boy while his parents were out of town. While out riding one day, we passed by his home. He looked up at me saying, "There is no need to stop here; there isn't anyone home but the table and chairs."

THELMA TREVATHAN
Lamont, Wyoming

One day Kenneth walked in front of a visitor in the schoolroom. "Why, Kenneth," said the teacher. "Come here. What do you say?"

Kenneth stepped in front of the visitor, smiled sweetly, and said, "How do you do?"

PEARL SARIUS
Brighton, Illinois

A little girl visited our classroom one day. I gave her a paint book so she could entertain herself. She immediately became absorbed in painting a picture of a horse, so we went on with our classwork. However, we were soon interrupted by the little miss who remarked, "I'm all done watering my horse now."

VAETES ARNOLD
Hawley, Minnesota

Little Anne is noted for her devotion to her mother, and the other day she said, "Oh, Mother, I love you so much, I wish you were twins, so I could love you twice as much."

ELIZABETH RICHARD
Oak Park, Illinois

The dentist was having trouble getting my young son to open his mouth so that he could extract a tooth. After listening to repeated assurances that it would not hurt, the boy wiped his tear-streaked face and said, "If it doesn't hurt, let me see you pull one of yours."

DORIS MAE ALLEN
Altus, Oklahoma

After two-year-old Barbara Jean awoke from her nap, her father asked her, "Where have you been?"

"I've been go-to-sleep," she said.

CLAUDIA DELL MEIRS
Gasport, Alabama

While Judy Ann was gazing at the new moon, she called, "Mommy, do you see the moon's eyelash?"

JOANNE VAN RYN
Austin, Minnesota

Sister had explained the principle of turning the other cheek. Then she said, "Now, Jerry, suppose some boy hit you. What would you do?"

Immediately Jerry said, "Sister, how big a boy are you supposing?"

SISTER MARY JEROME
Kansas City, Missouri

"Daddy, I want a pony," said little Tom, when he saw a colt scampering beside its mother.

"What would you do with a pony, Tom?" asked Daddy.

"I'd have lots of fun chasing him, jumping on and off him, and riding him," he further coaxed.

"Aren't you afraid you'd fall off, Tom?" asked his father.

"Oh, no, Daddy. I'd hold on to his suspenders!" Tom responded.

CRESCENTIA WINTERING
Oldenburg, Indiana

Nancy's father had just returned from overseas. She had never seen him, but she had been told that he was a soldier and she had seen pictures of him in uniform.

The night after his return, he received a visit from another soldier. Nancy, happening to glance into the room where the two men were talking, ran excitedly to her mother and called, "Come, Mother! Look! There's two daddys!"

FLORENCE FOLEY
Cloverdale, Ohio

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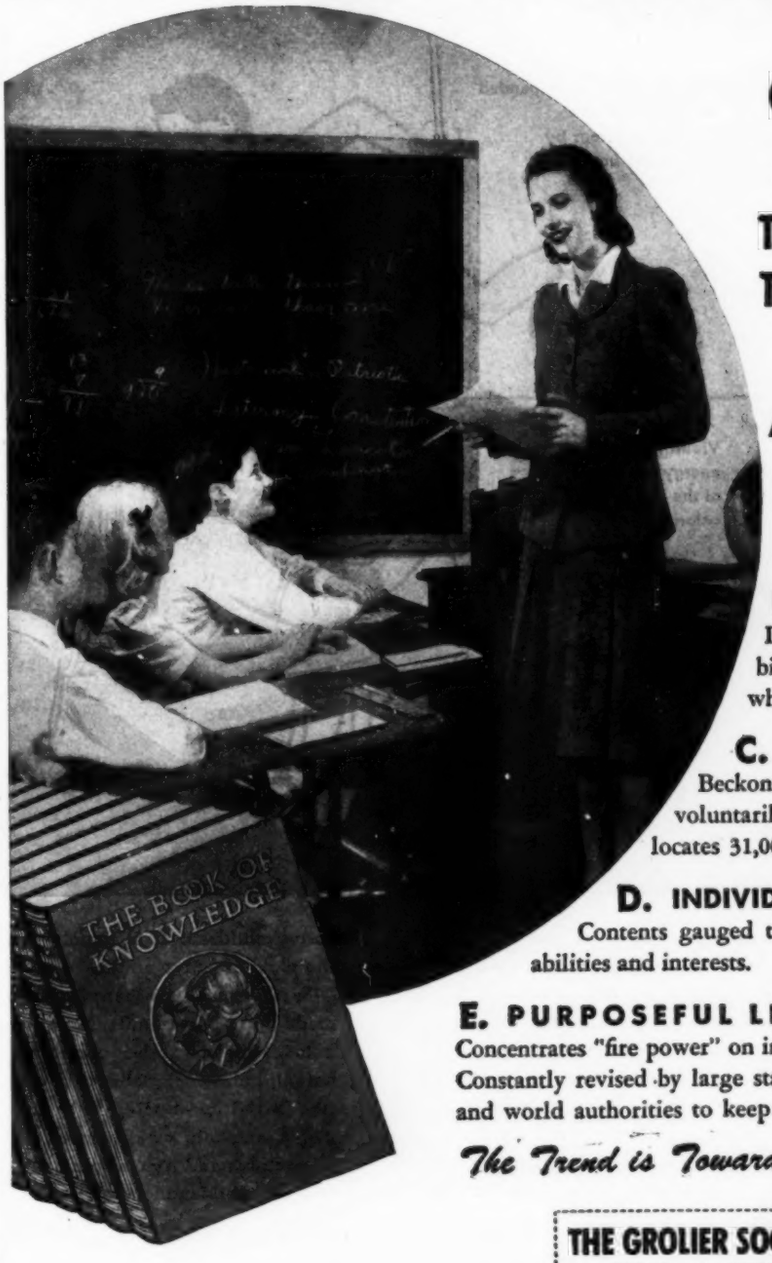

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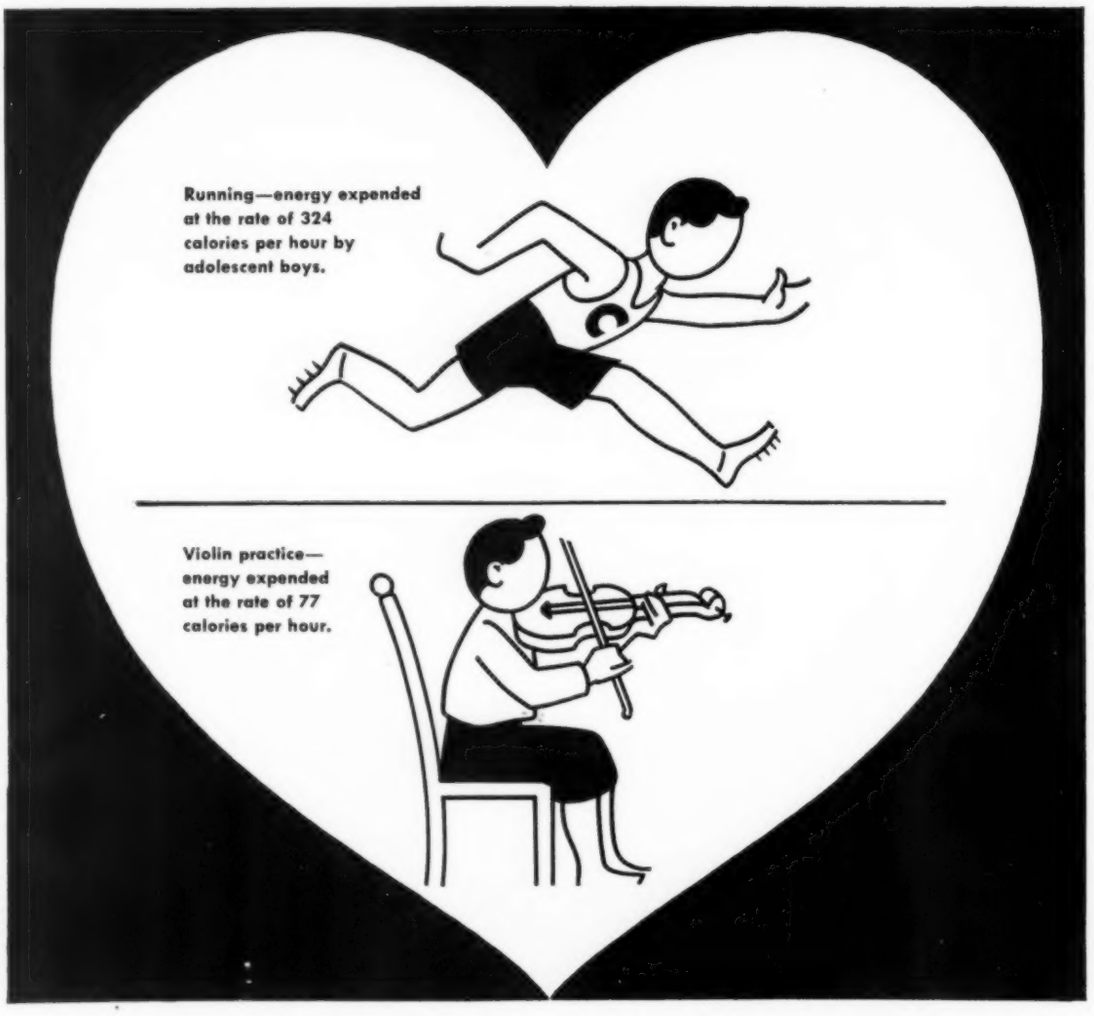
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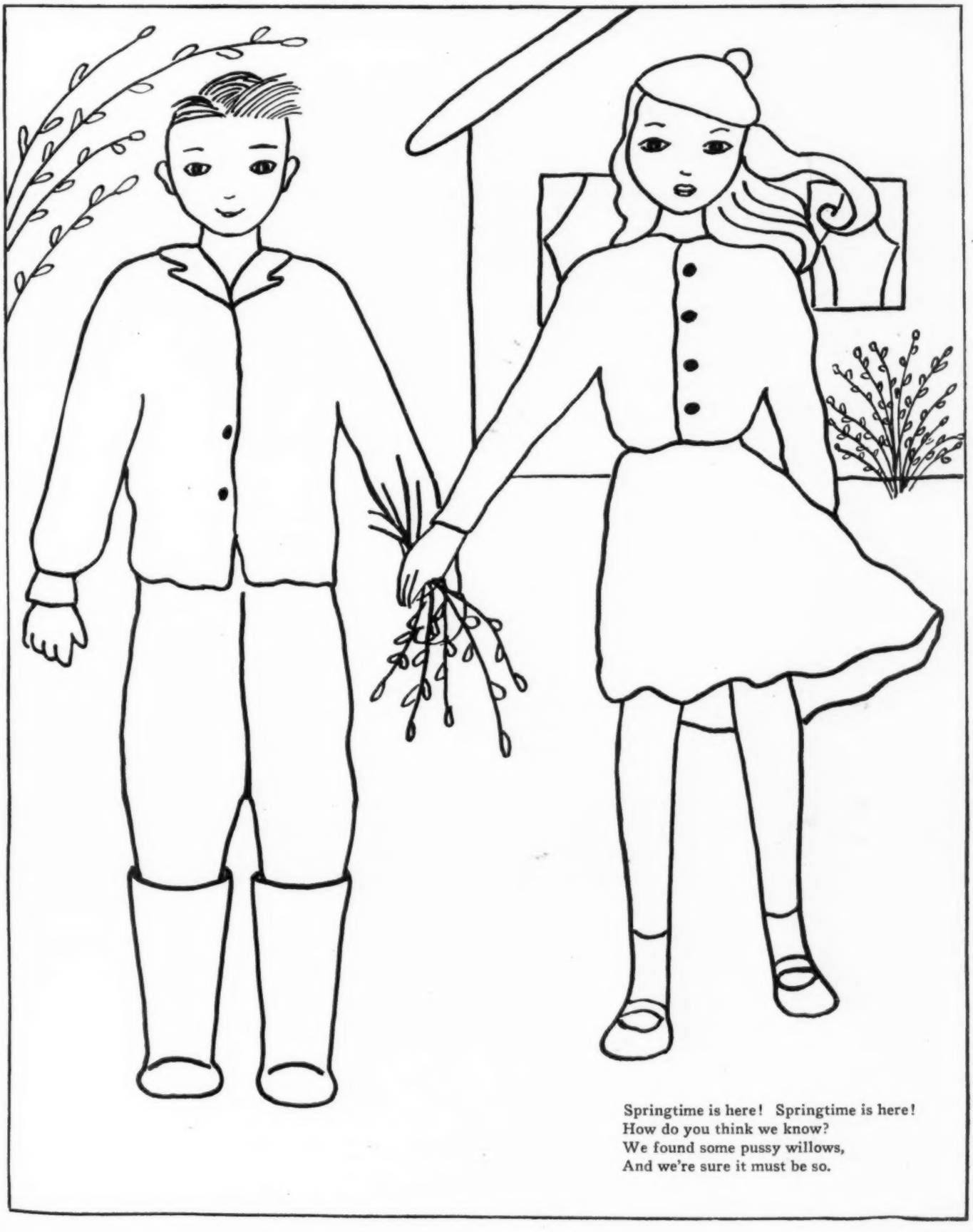


Springtime is here! Springtime is here!
How do you think we know?
We found some pussy willows,
And we're sure it must be so.

SPRINGTIME IS HERE

JESSIE TODD
Instructor in Art, Laboratory School, University of Chicago

TYPE LESSONS IN TOOL SUBJECTS

IVAH GREEN

Rural Supervisor, State Department of Public Instruction, Des Moines, Iowa

Primary Reading

THE suggested general procedures for teaching a primary reading lesson given here in outline form are followed by a typical lesson, using a story found in the second-grade reader *Along the Way* (J. C. Winston Company), and employing the suggested procedures in a specific situation.

MOTIVATION

A. Use your own personal experiences wherever possible.
B. Refer to what has gone before, when you can do so.
C. Tell a part of the story, using the phrases on the blackboard, but do not have children repeat phrases at this time.
D. Stop at an interesting part that leaves a question.
E. Try to use some such expression as:
1. What do you think happened then?
2. Do you suppose—
3. This is what you will find out when you read the story.

PHRASE DRILL

A. Teacher reads each phrase on the blackboard, sweeping it.
B. Pupils repeat each phrase after the teacher, in unison.
C. Pupils say the phrases individually, or in a drill game.

ASSIGNMENT

A. Send pupils to seats with readers, knowing what they are to find out by reading.
B. They are to read silently, without asking for help.

CLASS PROCEDURE

A. Have class answer the motivating questions.
B. If there is time, or if needed, give a quick drill on phrases.
C. Or give a quick drill on flash cards having phrases.
D. Give directions for pupils' class reading. "Read the part that tells—"
E. See that all find the place and put a finger on it.
F. Call on one pupil to read it.
G. Give another direction for finding a certain part.
H. Continue with this or a similar procedure.
I. Keep on the blackboard a list of all words pupils do not know.
J. Drill on them briefly.
K. Put these words on flash cards for later study.

SEATWORK AFTER CLASS

A. Explain seatwork to be done.
B. Give plenty of it. Make it varied and interesting.
C. Make it different from class procedure.
D. Make it simple, not involving too much writing.
E. It should not be confined to drawing pictures.
F. Suggest an extra activity to do after seatwork is finished.

Presenting a Second-Grade Reading Lesson

PREPARATORY

A. Write on the blackboard.—"Freddie, the Little Green Frog," page 38 in *Along the Way*.
B. Motivation.
1. Show picture in reader. Say, "Yesterday when you finished the story of the Gingerbread Cooky, you saw that your next story was to be about Freddie, the Little Green Frog. Here he is, and here is the title of the story." Point to it on blackboard. "You've all seen frogs, I know, but I'm sure you have never seen one dressed as gaily as Freddie was."
2. Stand to the right of phrases on the blackboard, and as you use these phrases in your talk, sweep them with your right hand, smoothly, and without interrupting the flow of your words, except for the briefest of pauses just before you sweep the phrase. Be sure all eyes are on you and the phrases. The italicized words below indicate which phrases are on the blackboard, and include the new words for each page to be read later. Say, "Freddie's mother gave him a *pair of yellow pants*, and his father gave him a *pretty blue coat*. Grandmother said to him, '*How fine you look!* You need a pretty vest.' So his grandmother gave Freddie a *red vest*. He felt so pleased with himself that he wanted his friends to see him. He went to the water and got *on top of a stone*. He looked down into the water and his *mouth flew open* in surprise. There in the water was *another frog* with clothes on just like Freddie's! He went to another part of the water, but everywhere he looked, there was a frog with the same pretty clothes that Freddie had. He was so disappointed that his *face looked sad* and his eyes were *wet with tears*. While he was crying, someone came along who was much smarter than Freddie. Who do you think it was? This 'someone' told Freddie something that made him feel much better. Can you guess what it was? As you read this story you will find out."
C. Phrase drill.
1. Go through phrases again, sweeping each as you say it.
2. Pupils repeat each after you, saying them in unison.
3. Pupils say them individually in turn, or in a game.
D. Assignment.—Pass out books to pupils. Remind them, "When you read the story, find out who came along to help Freddie, and see what this someone did to help him." *(Continued on page 78)*

Middle-Grade Spelling

TOO often we teachers are inclined to give pupils a spelling rule, and then direct their work from that point, constantly calling their attention to the rule. It would seem more practical and meaningful to the pupils if we were to lead them to discover the rule for themselves after they had seen its actual application. The following is a typical lesson on the formation of plurals, developed inductively. Have as many pupils as possible work at the blackboard.

1. Please write these words in a column as I say them: *day, key, bay, boy, jay, monkey, ray, toy, way, donkey, play, valley.*

2. In a second column write this list: *baby, fly, fairy, berry, cherry, lady, puppy, pansy, city, candy, penny, story.*

3. Each of these words refers to one thing—*one* day, *one* key, *one* baby, *one* story. We call these *singular* words. If I say "five days" or "three keys," how will you write *days* and *keys?* Yes, you will simply add *s*. Then the word is not singular any longer. It is a *plural* word. Now as I say a number for each of the words in the first column, please add *s* to the word, and make it plural. Five days, three keys, two bays, six boys, eight jays, and so on.

4. Look at the second column. If I say "two babies" instead of "one baby," how will you write *babies?* (Some will know how to spell the word.) What did you do to the word to make it plural? (Be sure that pupils do *not* say, "Added *ies*." Get them to state that they changed the *y* to *i* and then added *es*.)

5. As I say a number for each word in your second column to make it plural, please change the spelling. Two babies, ten flies, four fairies, twenty berries, and so on. (Be sure that the *y* is changed to *i*, not *ies* added to the singular.)

6. What was the same about the two columns as first written? (Each word in both columns ended in *y*.)

7. How did you change the words in the first column to plural? (Simply added *s*.)

8. How did you change the words in the second column to plural? (Changed the *y* to *i* and added *es*.)

9. Since the words in both columns ended alike in the singular, one would naturally think they should be changed in the same way to form the plural. But there is a clue that tells you why you did it the way you did. Who sees it? (If pupils know, get them to tell about the vowel or consonant preceding the *y*. If they do not know this clearly, go on to the next step.)

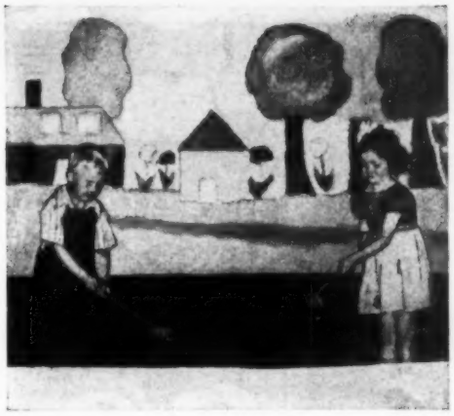
10. Draw a circle around the letter that comes before the *y* in each word in the first column. What kind of letter is it? (A vowel.) Do the same with the words in the second column. What kind of letter comes before the *y* in each of these words? (A consonant.) *(Continued on page 78)*

ACTING OUT A STORY

FOR PRIMARY GRADES

MARY R. MARTIN

First-Grade Supervisor, Lincoln Consolidated Training School, Michigan State Normal College, Ypsilanti, Michigan



The little wooden farmer and his wife are working in their garden. Between them and the audience is the finger-painted river. The backdrop is the outgrowth of group effort.

IN CHOOSING a story to dramatize, certain important points should be considered. Did the pupils enjoy the story when it was read? What are the possibilities for acting it out? Is the dramatization within the ability of the group? Are they capable of making the scenery and stage properties? What satisfaction will the children realize from the experience? Will the play be suitable for an assembly program?

Our group of primary children enjoyed reading and retelling *The Little Wooden Farmer*, by Alice Dalgliesh (Macmillan), and decided it would be fun to make a play of the story and present it in the assembly for girls and boys of the other grades.

During a preliminary discussion, many questions were raised, among them the following.

1. What characters do we need?
2. How many scenes shall we have?
3. What kind of scenery shall we have?
4. What stage properties do we need?
5. Shall we paint the river with easel paint or shall we use finger paint?
6. How can we make the boat go along the stage?
7. Which costumes can we bring from home and which shall we have to make in school?
8. Should the actors say just what the characters said in the story, or should they add things that the farmer and the others might have said?
9. What shall we have to remember about our voices so that the audience will enjoy our play?
10. Why is it so important for an actor to face the audience whenever he can?
11. How can pupils help, if not chosen for character parts?

The children were asked to think about the story and to come the next day with suggestions as to what the characters might say. They were also asked to bring ideas for scenery, costumes, and stage properties. Suggestions were to include only things that could be brought from home or that we could make.

After the next day's discussion, plans for scenery, costumes, and stage properties were recorded on charts like the following for future reference.

SCENERY

doghouse	boat	flowers
road	house	sky
trees	barn	grass

CHARACTERS

People

Captain
Little Wooden Farmer
Farmer's Wife

Animals

Cow	Rooster
Pig	Cat
Hen	Dog
2 Sheep	

Using 12″ x 18″ manila paper, the children then drew plans to show how the scenery suggested for the backdrop was to be arranged on the wrapping paper. This was discussed, and the pupils were guided in choosing the best plan. Those who were selected for the work took white chalk and on the wrapping paper lightly sketched the house, barn, silo, doghouse, trees, and flowers. Through questions and discussion, the other members of the group and the teacher helped them to place these things and to secure the right proportions. Next the colors to be used were discussed. At the same time, committees were chosen to design the stage properties and costumes. We were careful to see that all members of the group had an opportunity to do some painting—either the scenery, the boat, or the animal masks.

It was decided to experiment with finger paint for the river to find out whether to use it instead of easel paint on the brown wrapping paper. It was found to be satisfactory and also practical, as it required much less time. Since all paper used for finger painting must be quite wet, and we usually dipped it in water, someone asked how we could submerge this long strip of paper. It seemed best to have some children wet the paper with water, using large brushes. Other children followed right behind with the finger paint. This worked very well. After the blue finger paint was thoroughly dry, the children added a few "white waves." This was accomplished by going over certain parts of the blue surface with water and afterward applying the white finger paint.

One pupil suggested that we make the side of the boat from tagboard and fasten it to one of the children's wagons. Since we believe that scenery and stage properties should be so simple that changes can be made by the children without a teacher's assistance, we arranged to have the Captain steer the wagon forward across the stage and then back it up. This avoided pulling curtains or turning the wagon around. The curtain was not pulled at any time, since all stage properties were on from the beginning, and one scene directly followed another, when it was announced by the program chairman.

The children were able to apply what they had learned in previous dramatizations. Each time they practiced, they submerged their own personalities and became the characters they were portraying, and they enjoyed doing it. That this was the impression they conveyed to the audience at the final performance was very evident. Their naturalness while acting was due to their knowing the story, *(Continued on page 82)*

The little wooden farmer and his wife say good-by to the captain of the boat after he has brought them the animals they wanted for their farm—a cat to sit on the doorstep, a dog to guard the house, a rooster to crow in the morning, a cow to give rich milk, some sheep to give wool, a pig, and a hen.

Be sure that all buttons and snaps are sewed on.

Keep your shoes shined and the laces tied.

CARE OF CLOTHES

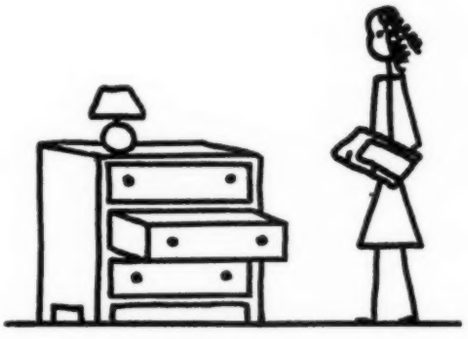
SEATWORK FOR ALL GRADES

SELMA E. HERR

Associate Professor of Elementary Education, University of Tennessee, Knoxville, Tennessee

Write answers to these questions.

1. Can you sew on a button? Are there any buttons missing from the clothes you are wearing today?
2. How often do you shine your shoes?
3. Why does brushing your clothes help to give you a neat appearance?
4. Why is it a good plan to keep your underwear, pajamas, and stockings in separate piles in your dresser drawers?
5. Do you keep the clothes you are not wearing hanging where they belong?



Lay underwear carefully in your dresser drawer.

Hang your clothes neatly in the closet.

Don't forget to use a clothesbrush.

SOME ASPECTS OF CONSERVATION

A UNIT FOR PRIMARY GRADES

YVONNE ALTMANN

Kindergarten Director, Merrill School, Oshkosh, Wisconsin

Girls and boys who play with toys carefully make them last longer so that the toys will give pleasure to more children. Courtesy, Public Schools, Madison, Wisconsin

CONSERVATION is a very easy subject to motivate because many children hear it discussed at home. Ask the class how they practice conservation at home, and then raise the question of what they can do about it at school. Conserving playthings, paper, clothes, light, water, and health may be mentioned. You are now ready to develop the unit.

OBJECTIVES

A. To share toys with others.
B. To use toys carefully.
C. To understand the need for sharing and taking care of the toys.
D. To conserve paper, and to understand why it must not be wasted.
E. To take good care of clothes, and to know the reasons for doing so.
F. To conserve water and light in the classroom, and to know why that is necessary.
G. To keep healthy, and to know why good health is desirable.

PROCEDURE

A. Conservation of toys.

During a discussion of toys, it was pointed out how carefully Mary played with the toys. Then someone mentioned that if everyone would play with the toys the way Mary did they would last a long time. The children soon realized that if they did not take good care of their toys, they might not have any left to play with. The idea was brought out that in school it is especially necessary to be careful with the toys because they do not belong to a single child but to all the girls and boys. After this group left the kindergarten there would be other children, maybe their little sisters and brothers, coming to school who would want toys to play with. If the present children abused the toys on hand, the new children who would come to kindergarten might not be able to have so many to play with. Toys cost money and the money for supplies has to buy many other things besides toys.

The children soon started to share the toys. This helped to conserve them because then they were not all in use all the time. The sharing of toys served to teach the children to get along well with one another—an important factor in the development of young children.

Songs about toys were taught to the children and related stories were told to them.

Later the parents reported that the careful treatment of toys carried over into the home.

B. Conservation of drawing paper supplied by the school.

When the children started to draw pictures of themselves taking good care of the toys, it was pointed out to them that they should take their time and draw a very good picture because our supply of paper was limited. Practice work could be done on newsprint, on which they could draw as much as they wished. It was decided to use drawing paper just twice a week, and to draw on both sides of each sheet. That meant that each child could have two sheets of paper and make four pictures to keep. The children were willing to co-operate when they realized that if they wasted paper and used too much they would not have any left at the end of the school year. This action resulted in better art work. Many pupils planned their pictures instead of just starting to scribble. They soon felt that it was a privilege to draw; previously many children just took paper and crayon or paint because they saw someone else do it.

Courtesy, Public Schools, Madison, Wisconsin

Pupils who understand the importance of conserving their clothing try to be careful when putting on and taking off their wraps.

C. Conservation of clothing.

One day the conversation was directed toward the proper care of clothes. Some children had been taught what to do with their wraps, but others just threw them around carelessly. Kindergarteners' garments should be labeled because many little children do not know their own clothes. In connection with the teaching of how to remove, hang up, and put on wraps, these points were brought out.

1. After a child grows too big for his clothes, he can pass them on to a friend if there is no one younger at home who can wear them.
2. By keeping clothes clean, children save their mothers a great deal of work, and the time saved can be used to do other things.
3. Well-cared-for garments will last longer, and parents can use the money saved for other necessary purposes.
4. If clothes are lost, it is important to find them so new ones will not have to be bought.

D. Conservation of light and water.

The children understood the need of conserving light and water when the reason was made clear to them. They even asked permission to turn out lights.

Keeping one's hands clean is a good health habit, but children often use it as an excuse to play in the water. This tendency decreased after we talked about conserving water and soap. Pictures were drawn on the subject of conserving light and water.

E. Conservation of health.

When one child remarked that he was going to the dentist the next day, I used this opening to start a discussion of the reasons for going to the dentist, the proper way to brush teeth, and the foods that help to build strong teeth.

This discussion was expanded to include rules for maintaining general good health. Then the children made this list of health habits that should be practiced at home in order to stay healthy.

1. Sleep twelve hours with the window open.
2. Drink milk and water but no tea or coffee.
3. Eat food that is good for you.
4. Keep hands, fingernails, and face clean.

(Continued on page 82)

FOR GOOD PERSONAL APPEARANCE

AMY ELIZABETH JENSEN

Teacher, Sixth Grade, Roosevelt School, Kenosha, Wisconsin

ALMOST all children will benefit from suggestions on the importance of personal appearance, but no responsibility of the teacher requires a more delicate and subtle approach. This is particularly true in the case of the pupils who most need such guidance. Sometimes they may be reached best individually, sometimes as members of the grade group. But it is essential that no child be criticized or made unhappy before his fellows.

A teacher needs to be kind, sympathetic, and understanding to deal with pupils who have had no training, at home or elsewhere, in personal care. In school such children are often ridiculed and shunned by their ruder classmates and politely avoided by the others.

Considering themselves misfits, many of these unpopular pupils become discouraged, even leaving school as soon as the law permits. If teachers would properly guide such pupils during the formative and impressionable years, many cases of maladjustment, wrong mental attitude, and warped personality could be avoided.

First of all, it is essential that the teacher herself set a good example, for children certainly emulate their teachers. If one wishes to impress pupils with the importance of personal appearance, it is necessary to dress simply and in good taste, and to be well groomed. Children often comment on the appearance of teachers, with remarks such as "I like the way Miss Black dresses and does her hair" and "Mrs. Brown always looks so neat." (Unfortunately for the profession, they intend to be very flattering when they say, "She doesn't look like a teacher.") Sometimes, of course, the remarks are not at all complimentary.

Guidance in personal appearance must not be a set of "do's" and "don't's" representing what the teacher thinks about the subject. Suggestions will be more readily accepted if they come from the children themselves. It is better to let them formulate a set of standards. If many pupils contribute ideas, they will make up a surprisingly long list—and of course the teacher can cleverly add to it.

If each child is given a chart incorporating the objectives selected by the class, he can check his own habits and work to improve them. This self-appraisal, plus the teacher's interest and the approval of the class, will encourage him to make further improvement.

The type of questionnaire constructed will depend upon the age group, the children's background, and other factors. Following is one compiled by some sixth-graders. (Most of the questions are general, but one or two, obviously, apply to girls alone.)

1. Do I bathe and change my clothes frequently?

2. Is my hair washed often, brushed and combed neatly, and in a style becoming to me?

3. Are my teeth brushed, and do I have dental care when I need it?

4. Are my nails clean and well trimmed?

5. Are my clothes suitable? Do they fit? Are they properly fastened, well brushed, pressed, and free from spots?

6. Are my shoes the right kind? Do they fit? Are they polished?

7. Do I help my parents take care of my *(Continued on page 74)*

Visual-Education Materials IV—Exhibits and Kits

ALL teachers can, and most teachers do, collect visual materials for pupils to touch and handle. No school need be without a modest supply of such objects as birds' and hornets' nests, pressed leaves, cocoons, rocks, samples of hard and soft coal, and a cotton boll. Souvenirs from other countries, as coins or pottery, can often be secured. If encouraged, children will delight in bringing such things, and will often make worth-while contributions for temporary or permanent use.

Many commercial firms supply materials which will augment those collected locally, and also furnish text material, photographs, and other teaching aids. Below are listed some valuable materials of this type.

American Bemberg Corp., 261 Fifth Ave., New York 16. (1) Wall chart with skein of rayon, 20 samples of fabrics, diagram showing how Bemberg rayon is made. $.40. (2) Bottle exhibit showing stages in the development of Bemberg rayon from cotton linters to finished yarn. $.40. (3) Both of the above with wall chart showing steps in the manufacturing and testing of Bemberg rayon. $.75.

American Viscose Corp., Educational Section, 350 Fifth Ave., New York 1. (1) Two kits, one showing process of manufacturing viscose rayon, and other acetate rayon. Includes photographs, text, and samples of rayon in its various stages of development. $.50 each. (2) Teaching units for Grades 1–3, 4–6, 7–9. Mention number of pupils. Free.

Bristol-Myers Co., Educational Dept., 630 Fifth Ave., New York 20. "Ipana's 5-Way Plan for Dental Health." Includes wall chart, cardboard model of teeth, literature. Mention number of pupils. Free.

Chicago Cork Works Co., 2600 N. Crawford Ave., Chicago 39. Exhibit of cork manufacture and products. $1.00.

Chinese News Service, Visual Dept., 30 Rockefeller Plaza, New York 20. Kits and exhibit materials will be loaned free. Send for "Visual Catalog."

Esmond Mills, Esmond, R.I. Cotton Blanket Exhibit, with pictures, text, and samples showing steps in making cotton baby blankets. $.50.

Esterbrook Pen Co., Camden, N.J. Process card showing steps in the manufacture of steel pens. Ask for form No. J-149. Free.

Hammermill Paper Co., Erie, Pa. (1) Teacher's Packet—booklets, lesson plans, wood and pulp samples. $.15. (2) Classroom Exhibit—booklets, sample books, and bottled exhibits of wood and pulp samples. $.25. (3) Science Exhibit—table display of wood and pulp samples, photographs, booklets, diagram of paper machine. $1.00.

Masonite Corp., 111 W. Washington St., Chicago 2. Wood products. Ask for free samples of (1) Cellufoam, (2) Cell-U-Blanket, insulating material, (3) Presdwood, (4) Die Stock; also booklet, "The Story of Masonite."

D. and L. Slade Co., 189 State St., Boston 9, Mass. Exhibits of extracts and spices, available in New England only. Booklet, "Story of Spices," available east of the Mississippi. Free.

State Dept. of Agriculture, 541 St. Ann St., New Orleans 16. Will send free to teachers or pupils a cotton boll, cottonseed, lint cotton, rice, sugar cane; also related bulletins.

Strathmore Paper Co., West Springfield, Mass. (1) Booklet, "Making Expressive Strathmore Papers." Free. (2) Paper exhibit. $1.00.

U.S. Gypsum Co., 300 West Adams St., Chicago 6. Kit containing small jars of gypsum rock, samples of gypsum plasters, lime, and building materials made of gypsum. Accompanying literature. Free.

KITS

Association of American Railroads, Washington 6, D.C. Teacher's kit for all grades. Pictures, text, teacher's manual. Free.

Cereal Institute, Inc., Educational Dept., 135 S. LaSalle St., Chicago 3. Elementary School Breakfast Teaching Material and U.S. Meal Pattern Chart.

E. I. duPont De Nemours and Co., Rayon Division, 250 Fifth Ave., New York 1. Rayon wall chart, rayon handbook for teachers, rayon booklets for pupils. Free.

National Live Stock and Meat Board, 407 S. Dearborn St., Chicago 5. "Elementary School Nutrition Teaching Kit" for middle grades. Mention number of pupils. Free.

Ralston Purina Co., Checkerboard Square, St. Louis 2. "Teaching Kit on Cereal Grains." Free.

Trans World Airline, TWA Air World Education Service, Kansas City 6, Mo. Teaching packets in social science and aeronautical science. Free.

United Air Lines, Department of School and College Service, 23 E. Monroe St., Chicago 3. Three teaching kits, for grades 1–3, 4–6, and junior and senior high school. $.25 each. Ask for list of other material, free and low-cost.

U.S. Beet Sugar Assn., 1001 Tower Bldg., Washington 5, D.C. "Classroom Kit on the Sugar Beet." Includes chart, photographs, etc., for a middle- and upper-grade unit. Free.

IS YOUR HANDWRITING LEGIBLE?

LESSONS TO HELP IMPROVE HANDWRITING IN MIDDLE AND UPPER GRADES

HELEN VOSATKA

Teacher of English, Public Schools, Cleveland, Ohio

1. Do you make your *a*'s and *o*'s look alike? Practice writing these words. Bring the last downstroke of the *a* down to the line. Keep the last stroke of the *o* up above the line.

loan coat coal broad board
today collar polar oval along

2. Do you make your *e*'s and *i*'s look alike? Practice writing these words. Each *e* should have a loop. The *i* should not be looped, and it should be dotted directly above.

mile seize sieve eight rein
receive receipt recipe ceiling

3. Do your *n*'s and *u*'s look alike? Do your *m*'s and *w*'s look alike? Practice writing these words. An *n* and an *m* are rounded at the top. A *u* and a *w* are rounded at the bottom.

round amount funny runner
mow warm sun annual swim

4. Do you make an *r* that looks like an undotted *i*? Practice writing these words. An *r* should have a sloping roof.

air rice trip run turn
fur rub prune drum burr

5. Do you confuse a *g* with a *q*? Practice writing these words. The letter *g* loops to the left. The letter *q* loops to the right.

guard guess guest fatigue
quart quiz quest squash

6. Do you make a letter *x* that looks like a few twisted lines? Practice writing these words. Cross the downstroke of the *x* directly through the center.

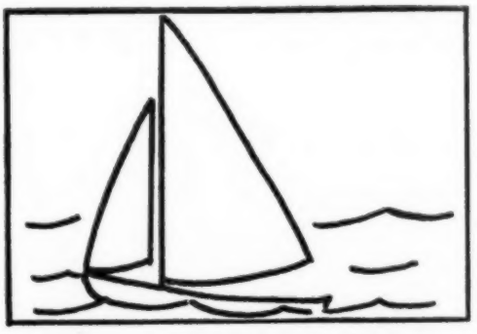
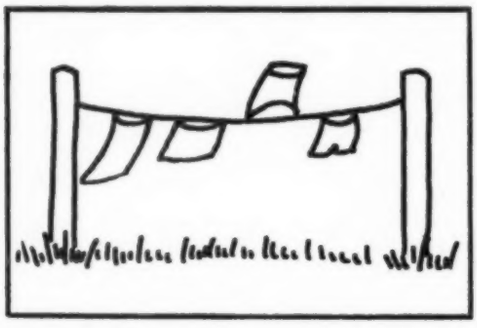
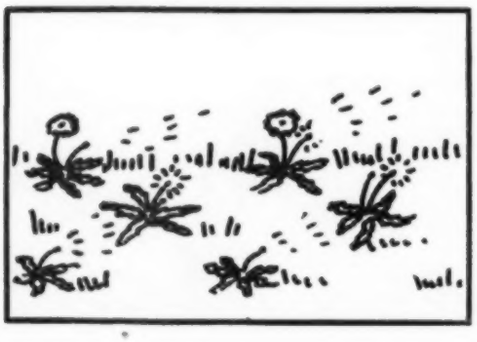
excel expect except larynx
ax box mix exit extra

SEATWORK ABOUT THE WIND

LENORA E. BYERS

Teacher, Third Grade, Public Schools, Charlotte, North Carolina

1. Match the four pictures with their correct sentences.
2. Draw pictures to match the rest of the sentences.
3. Cut out each picture. Paste it on paper and write the correct sentence below.

	The wind helps to dry clothes.	
	Rocks are worn down by wind.	
	When the wind is cold we wear warm wraps.	
	The wind helps to dry streets.	
	The wind turns windmills.	
	Seeds are blown by the wind.	
	The wind moves sailboats.	

HOW MUCH DRILL IN ARITHMETIC?

LYLE S. HANCE

Formerly, Supervising Principal, Public Schools, Camp Douglas, Wisconsin

Has that troublesome question of drill in arithmetic been bothering you again? Here are some suggestions that will help clarify your thinking.

WE HAVE been assured that "while meaningful drill is greatly to be desired, too much drill at the wrong time is not only useless but harmful, since it tends to kill the child's interest and initiative."[1]

If too much drill is harmful, then how much drill should there be in arithmetic? Other questions, closely allied to this one, present themselves: What drill is needed? When should it be given? What is the best way of providing it? How one answers these questions depends upon several factors, such as:

1. What one believes arithmetic to be.
2. The philosophy of teaching to which one subscribes.
3. Teaching procedures that one follows.
4. Mental age and grade placement of pupils.
5. Balance and distribution of drill in instructional materials.

If one subscribes to the theory that arithmetic is only a tool, to be used when the user needs the answer to a specific problem, then the kind and the amount of drill which will produce the greatest speed and accuracy in adding or multiplying will be sought.

If, on the other hand, one believes that arithmetic embodies the quantitative aspects of everyday living, with definite social implications, then the ability to *think quantitatively* assumes greater importance as an objective —and since abstract drill contributes little if anything to development of this ability, the repetitive process tends to be subordinated.

It used to be thought that learning resulted largely from repetitions of an act or a process, so that the more repetitions there were, the more complete would be the learning. This was an easy theory to follow in teaching arithmetic because of the nature of the subject. Flash cards, rapid-fire drills, blackboard exercises, and so forth, are easy to plan and simple to administer, and the results are readily checked. This type of work is not intrinsically wrong but it may become so if poorly used or overused. Mechanical drills may be done during unsupervised work periods, so busy teachers usually welcome them. But, left alone to do drills, a pupil may be inaccurate, employ wrong procedures, and become hopelessly confused.

Educators now are generally agreed that what formerly were classed as by-products of the learning process are fully as significant as mastery of factual concepts. The method by which a child attacks a problem is as important as the solution he finds. The purpose is as important as the method. Meanings and understandings that grow out of the procedure should be considered more important than either method or purpose. Ability to understand and to interpret situations is not gained from a quantity of automatic responses. In arithmetic, the key to the value of the material presented and to the method used in presentation lies in the answer to the question, "Is the material *socially significant* and *mathematically meaningful*?"

In determining the amount of drill that is needed, teaching techniques should be taken into account. A wise use of worked-out models to check understanding of how to proceed, before assigning drill, prevents the fixing of faulty habits which in turn have to be corrected with more drill.

Often the gap between presentation of a process and drill on it is too great for a pupil to bridge. Sometimes the sequence of steps to be taken is not clear, and a great many drill situations are required to lift the fog from a procedure that could have been cleared with one or two worked-out models.

The readiness for new concepts is just as fundamental to good teaching in arithmetic as it is in reading. The principle should be employed with each new major concept. Long division offers a case in point. "When," one may ask, "is a pupil ready to begin the study of long division?" Is it when he arrives at a certain page in his textbook?

Actually, a pupil is ready for long division when and only when he understands its meaning and has control of the prerequisite fundamentals. Any pupil who has control of single-digit division, subtraction, and multiplication by single digits has but two new concepts to grasp in his mastery of long division—estimation of quotient figures and the sequence of long-division steps. A relatively small amount of drill will fix these concepts, but if there is no mastery of fundamentals then the long-division drill must carry the added burden of a faulty foundation.

Too often teachers assign drill on a phase of arithmetic in which a pupil exhibits weakness, hoping rather than believing that he will work his way out of his weakness if given enough drill examples. Good teaching substitutes specific diagnostic tests and specific remedial instruction. A diagnostic test shows the exact point of process breakdown; it tells the teacher *why* the pupil missed, and thus points the way to the desired type of remedial instruction; it gives the teacher usable information which drill examples of themselves could never furnish. Remedial instruction, based on the results of specific diagnosis and aimed at the focal point of process breakdown, will achieve far better results than any amount of drill fired at a weak pupil in shotgun fashion.

The amount of drill needed on a new arithmetical concept depends somewhat on the mental age of the pupil when that concept is first presented to him. Studies indicate that the rate of learning increases with age; that, for example, a child whose mental age is eleven years learns faster than one whose mental age is nine. This should mean that a smaller amount of fixation drill administered at a higher age will produce results equal to a larger amount of drill presented at a lower age.

The grade level at which materials are presented is important. The longer a syllabus delays the presentation of difficult materials, the greater will be the age of the pupils. However, the relation of drill to grade placement goes deeper than mere difference in age levels; for the earlier in the school curriculum that a skill is presented and taught, the longer that skill must be maintained with what is called *maintenance drill*.

If, for example, the difficult concept of subtraction of unlike fractions is taught in fifth grade, the concept must be maintained through this grade and to the end of the elementary program. If this concept is delayed until the sixth grade, then the fifth-grade drill program *(Continued on page 79)*

Courtesy, Public Schools, Madison, Wisconsin

A certain amount of drill is essential in the tool subjects, but it should always follow an understanding of the procedure involved.

[1] *Child Development and the Tool Subjects in Rural Areas*, Page 82, 1941 Yearbook, Department of Rural Education, National Education Association of the United States.

READY-TO-USE TESTS FOR

Buying and Selling Goods

KATHARINE THOMAS
Principal, Campus School, State Teachers College, Eau Claire, Wisconsin

I. *Match the description in the numbered list with the term to which it applies in the lettered list.*

1. difference between the total cost and the selling price
2. excess of the receipts over cost and expenditures
3. difference between the receipts and the cost of goods
4. another name for gross profit
5. a deduction from the price of an article
6. sale of articles in large quantities
7. amount of money deducted from the price of an article in a sale
8. reduction permitted retail dealers on the catalogue price
9. price charged after discounts have been made
10. payment to salesmen on the basis of what they sell
11. price of an article given in a catalogue
12. price which a dealer asks for an article
13. amount realized from sales after a commission has been taken out
14. bill sent when goods are shipped to a dealer
15. sale of articles in small quantities

a. margin
b. discount
c. wholesale
d. profit
e. commission
f. net price
g. net profit
h. gross profit
i. marked price
j. retail
k. invoice
l. sales discount
m. trade discount
n. list price
o. net proceeds

II. *Answer the following questions and fill in the blanks.*

1. Which amounts to more as a discount, a discount of 30% from the price of an article, or two successive discounts of 20% and 10%?
2. Which type of profit is the larger, the net profit or the gross profit?
3. The net profit and the margin are often expressed as ..... either of the cost of the goods or of the receipts from the sales.
4. In working with successive discounts, does it make any difference which discount is figured first?
5. What name is given to the notices which wholesale and retail merchants send to their customers at the end of each month?
6. How should payment received for a bill be marked by (a) an individual, (b) a firm?
7. What do we call the procedure when a merchant counts the stock on hand and evaluates it?
8. The number of times a dealer sells his stock of goods during a season is called the .....

III. *Solve these problems.*

1. A business firm paid $650 for goods which were sold for $1,000. (a) What was the gross profit? (b) If the operating expenses were $125, what was the net profit?
2. A dealer bought fruit for $50 and sold it for $54.50. If his operating expenses were $5.50, did he gain or lose, and how much?
3. A boy bought a bicycle for $15. He spent $10 for repairs and then sold the bicycle for $30. (a) What was his net profit? (b) The net profit was what per cent of the total cost of the bicycle? (c) The net profit was what per cent of the selling price?
4. A merchant bought 20 dresses listed at $12.50 each, 4 dozen pairs of hose listed at $10.78 per dozen, and 5 dozen handkerchiefs listed at $4.20 per dozen. Discounts of 15% and then 5% were allowed. (a) What was the total amount of the bill before the discounts were taken? (b) What was the net price?
5. A man sells groceries which amount to $4,860 in a month. He is paid a commission of 5% on his sales. (a) How much is his commission? (b) What are the net proceeds received by the dealer? *(For key, see page 82)*

Did you know that a discount is allowed on monthly gas and electric bills?

Famous Buildings

DAISY L. DETRICK

The numbered list contains statements about famous buildings; the lettered list gives their names. Match the two.

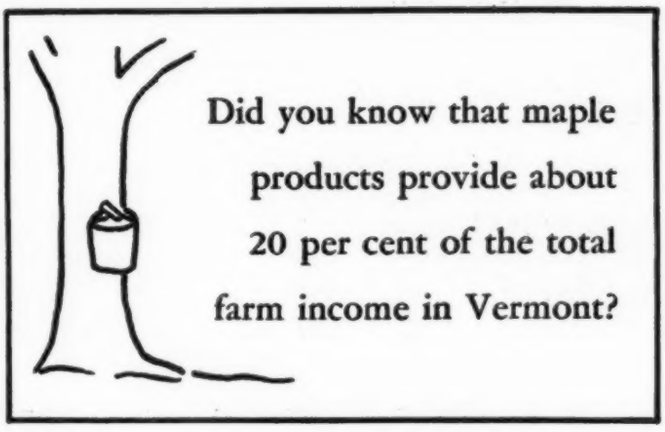
1. building that covers most ground of any in the world
2. home of the Liberty Bell
3. a residence of English sovereigns
4. best-known amphitheater
5. home of Andrew Jackson
6. Temple of Athena on the Acropolis
7. summer home of the president of Mexico
8. "Cradle of Texas Liberty"
9. building from whose tower lanterns are said to have signaled Paul Revere
10. home of Robert E. Lee
11. world's largest church
12. Irish castle
13. highest building in the United States
14. home of George Washington
15. tomb near Delhi, India
16. a cathedral in Paris
17. settlement house in Chicago
18. art gallery
19. former temple in Rome
20. burial place of many famous British men
21. "Cradle of American Liberty"

a. Mount Vernon
b. Independence Hall
c. Alamo
d. Old North Church
e. Faneuil Hall
f. Chapultepec Castle
g. Pentagon
h. Arlington
i. Empire State Building
j. Windsor Castle
k. Parthenon
l. Pantheon
m. Colosseum
n. Hermitage
o. Blarney Castle
p. Hull House
q. Notre Dame
r. Westminster Abbey
s. Saint Peter's
t. Taj Mahal
u. Louvre

(For key, see page 82)

Did you know that Monticello was the home of Thomas Jefferson?

MIDDLE AND UPPER GRADES



The New England States

OTIS K. RICE

Principal, Public School, Glasgow, West Virginia

I. *Choose the ending which best completes each statement.*

1. Much of New England is poor farm land because (a) the soil is thin and rocky; (b) the early settlers planted crops which wore out the land; (c) the farmers do not use good fertilizer.

2. Many New England people are engaged in commerce because (a) they are poor farmers; (b) there are many manufactured products to be distributed; (c) they build so many ships.

3. Shipbuilding became an important industry in New England because (a) many good carpenters were available; (b) ships were needed for fishing and for trade; (c) so many people wanted to go to Europe.

4. One reason why ships could be built cheaply in New England was that (a) good timber for shipbuilding grew near the coast; (b) workmen were paid low wages; (c) the ships were not so well built as those which were built in England.

5. Cotton could not be grown with profit in New England because (a) the farmers could not afford large plantations; (b) good farm machinery was lacking; (c) the climate and land were not suitable for growing this crop.

6. Slaves were seldom used in New England because (a) the people were opposed to slavery; (b) slaves were not profitable on small farms; (c) slaves could work well only in the South.

II. *From the list that follows, choose a word or group of words to make each statement correct.*

sailors' delight	Portland
Great Divide	Kennebec
maple sugar	beets
Atlantic Coastal Plain	pine needles
	cod
naval stores	Boston
pickerel	Connecticut
potatoes	

1. An important forest product of Vermont is _____.

2. Much of New England is situated on the _____.

3. Pitch, tar, rosin, and turpentine are called _____.

4. The _____ River forms the boundary between two New England states.

5. _____ are an important product of Maine.

6. _____ is the largest city in New England.

7. The best-known fish caught on the New England coast is the _____.

III. *The following list gives the names of some famous colleges. Identify the New England colleges, and name the state where each is located.*

Amherst	Bryn Mawr
Vassar	Smith
Princeton	Wellesley
Yale	Colgate
William and Mary	Williams
Dartmouth	Duke
Oberlin	Brown
Harvard	Radcliffe
Mount Holyoke	Rutgers
Rochester	Temple

IV. *Match the state name in the numbered list with the state nickname in the lettered list.*

1. New Hampshire
2. Rhode Island
3. Massachusetts
4. Maine
5. Vermont
6. Connecticut

a. Green Mountain State
b. Granite State
c. Bay State
d. Little Rhody
e. Nutmeg State
f. Pine Tree State

V. *Choose three items in each list which are closely related.*

1. good harbors, world trade, small farms, shipping, poor soil
2. plantations, mountains, one crop, several crops, small farms
3. farming, sailing, fishing, shipbuilding, rich soil
4. mountains, water power, rich soil, factories, fishing
5. lumbering, mining, naval stores, factories, shipbuilding

VI. *If the statement is true, write* T *after it; if it is false, write* F *after it.*

1. Concord is the capital of New Hampshire.
2. The Green Mountains are a part of the Appalachian system.
3. Many of the cities of New England have been built around mills and factories.
4. The state of Rhode Island is the largest island in the U.S.
5. Fishing is an important industry in New England.
6. New England has very mild winters, and long summers.
7. Most of the cotton used in New England mills is grown in the South. *(For key, see page 82)*

Safety Out of Doors

ETHEL HULSLANDER

Formerly, Teacher, District 29, Logan County, Colorado

Underline the word or group of words in parenthesis that makes each statement true.

1. You should (run, look in both directions) when you start across the street.

2. When roller skating, if you wish to cross the road, (remove skates and walk, skate across).

3. A bicycle should be ridden (in the road, on the sidewalk).

4. A bicycle rider (must, need not) obey the same traffic rules as an automobile driver.

5. (Only one person, Not more than two persons) may safely ride on a bicycle at one time.

6. You should walk on the (left, right) side of the highway.

7. A caution sign means (look before you go, hurry).

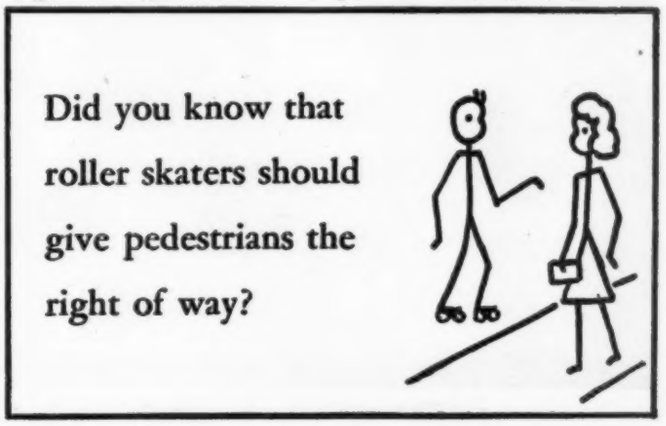
8. It is safe to use (paper, kerosene) in starting a bonfire.

9. It is (safe, unsafe) to leave a picnic fire in the park if it is only smoldering.

10. Water that looks clean (is safe, may not be safe) to drink.

11. A kite may be dangerous if the string should (break, wrap around an electric wire).

12. (Never, Always) fly your kite with a wire instead of a string. *(For key, see page 82)*

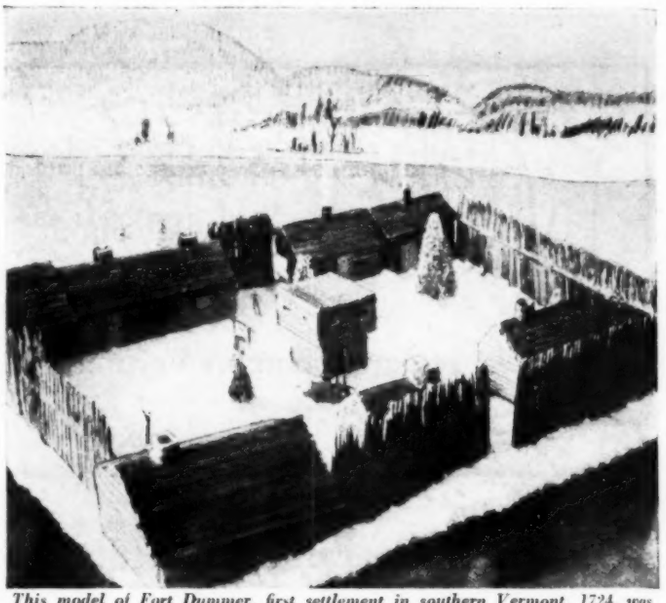


MODELS WE HAVE CONSTRUCTED

FOR MIDDLE AND UPPER GRADES

LANICE PATON DANA

Supervisor of Art, Public Schools, Brattleboro, Vermont



This model of Fort Dummer, first settlement in southern Vermont, 1724, was made by pupils in the fifth grade at the Canal Street School, Brattleboro.

IT IS a generally accepted principle—one to be frequently stressed—that an activity which correlates art-crafts with another classroom subject stimulates increased interest in both fields. Any decorative or construction project which illustrates, and illuminates, the study of history or geography helps pupils to visualize the period or locality which is being discussed.

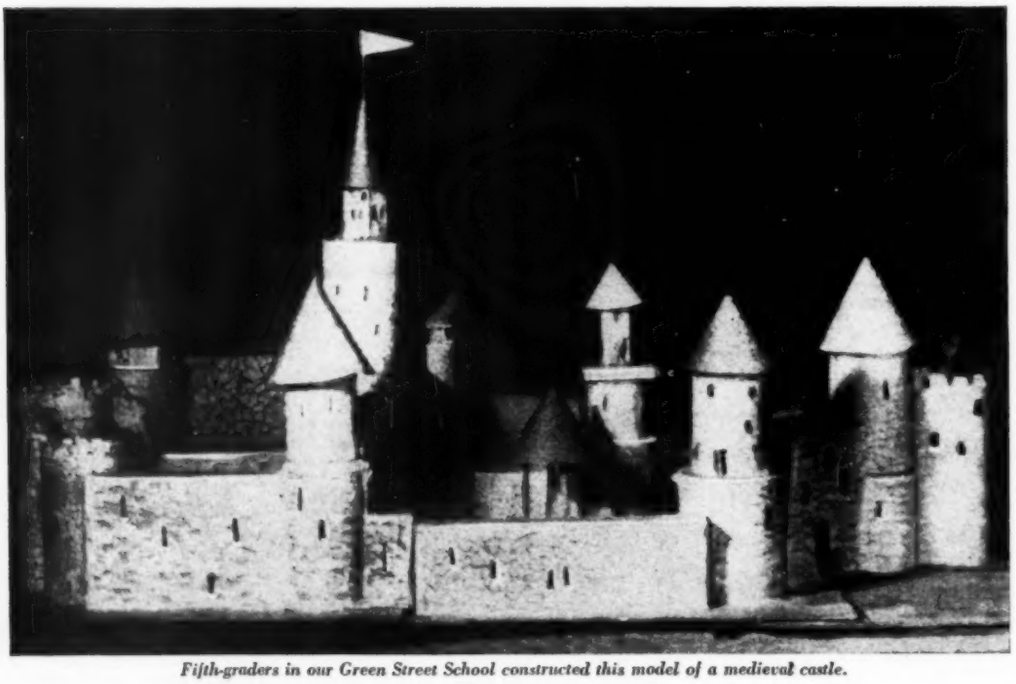
Such a project also encourages those pupils who are skillful in using tools. Furthermore, there is an opportunity for a large number of pupils to participate in an activity of this nature. Though there is no particular originality in the subject matter of the projects undertaken in the schools of our town, perhaps a review of the media and methods that have produced pleasing results will suggest possibilities to teachers elsewhere.

The two projects illustrated on this page proved to be well adapted to the fifth-grade level. At that age, pupils are likely to be passing through a period of development which makes them hesitate to try (or critical of) the bold, free art work of which children in the four lower grades are usually capable. Some fifth-graders begin to feel a need for exactness and detail which is still more characteristic of seventh- and eighth-year children. They welcome opportunities to attempt models of pioneer villages, castles, and pueblos—all of which correlate with social-studies units.

The definite proposal to construct a model should emanate from the classroom teacher rather than from the art supervisor. A teacher with natural aptitude and enthusiasm for art or craft work will feel the urge to lead her class toward this form of expression. The supervisor's role, with such a teacher, should be to say, "Would you like to?" or "How do you suggest making it?" She should then help provide the materials and propose methods which the teacher may improve upon. A less experienced teacher, however, will need much help from the supervisor. If left too much to herself, she may inadvertently let the construction lag until the pupils lose interest.

When our fifth-grade classes undertook to make a scale model of Fort Dummer, the first settlement in southern Vermont, they found the scene for their backdrop by looking out of their windows to the New Hampshire side of the Connecticut River.

The fort enclosure was so small that when planned to a convenient scale ($1\frac{1}{2}''=6'$) the large pieces of a cardboard carton used as a base fitted nicely on a five-foot table. The teacher made an enlargement based on Colonel Willard's 1724 map. The children brought in cardboard boxes of various sizes, which were cut down to fit the ground plan and to which were added roofs strapped on with gummed paper strips. The original idea was to cover these with twigs to represent logs, but one alert boy offered a better suggestion. From a near-by lumber mill he brought thin strips cut out of the edges of boards tongued for matched flooring. These strips were easy to work with, and uneven enough to create the effect of hand-hewn logs. Lengths of them were glued to the cardboard foundations and then were stained so as to look weathered. The chimneys were of clay; the "smoke," shreds of sheer rayon ribbon. Individual pupils made two of the houses; ten more worked on the others. Three made the stockade and six the scenery. While everyone in the class took some part in the project, it was of interest to the instructors that three pupils very active in the construction were members of an underprivileged group who were being encouraged to develop their manual abilities.



Fifth-graders in our Green Street School constructed this model of a medieval castle.

Our pupils have made several castles, all by the same general method but very different in results. The one illustrated was built by a capable fifth grade. They chose a lord and lady of the castle, and a builder to decide on details of the plan, and to hire and boss the workers. Members of the class brought in boxes of all kinds, especially round or odd-shaped ones. After these were satisfactorily placed, like so many building blocks, they were fastened onto a heavy cardboard base (26" x 38") and joined together with gummed-paper tape or glued strips. When the boxes were firmly located, each pupil covered the box which he had contributed.

A general-utility paper that we had on hand was especially satisfactory for covering the boxes. When no

(Continued on page 84)

SEATWORK IN FRACTIONS

IN THE modern arithmetic curriculum, primary children no longer spend most of their time on addition and subtraction, while fractions are delayed until fourth or fifth grade.

Today the younger children are given practice not only in adding and subtracting, but in multiplying and dividing, in manipulating groups through "parting and wholing" (to use Dewey's phrase), and in dealing with fractional parts. This page presents suitable seatwork for primary pupils in the field of fractions.

There are two fundamental fractional concepts—taking a part of one object or unit (half of an orange), and taking a part of a group (half of 6 oranges). The idea that the parts are *equal* must also be understood, and that the more parts there are, the smaller each part must be. These concepts, along with the correct way of expressing them with figures and signs (⅓ of 9) are the essential things to be learned in the primary grades.

Children acquire the basic fractional concepts mentioned above as they cut and draw, tell time, make change, and carry on other activities. Generalizations come from many and varied concrete experiences. Therefore, as children "play" with objects, they are laying a firm base for understanding not only fractions but the related decimals and percentage.

The purpose of the seatwork should be to present familiar ideas in a somewhat different form, which will give added practice, and be a check on how well the fractional concepts are being learned. There should always be directed experiences with any new types of work to be assigned—so as to avoid needless errors.

Showing Fractional Parts.

1. Draw a glass 4″ high half full of orange juice.
2. Draw another glass 4″ high ¼ full of tomato juice.
3. Draw another glass 4″ high ¾ full of grapefruit juice.

Cutting Shapes According to Directions. Brown wrapping paper and old newspapers are good materials to use. Examples:

1. Cut a strip of paper one foot long and one inch wide.
   Cut another strip 3 times as long and the same width.
   Cut another strip ⅓ as long and the same width.
2. Cut a strip half a yard long.

[The children should write their names and the intended dimensions on each strip after it has been cut. Teach the symbols for inch and foot and the abbreviations *in.*, *ft.*, *yd.*, and let children use any form they desire.]

3. Cut three cookies.
   Cut one of them into halves, one into thirds, and the last into fourths.

[The child may be directed to write ½, ⅓, or ¼ on each piece.]

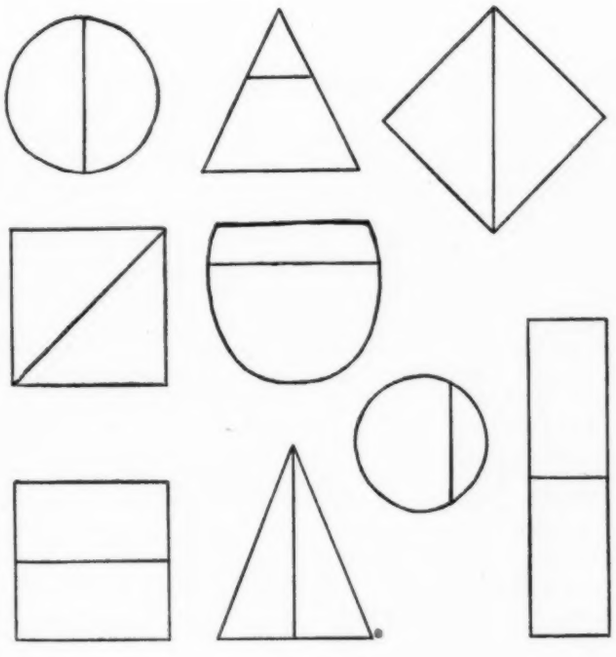
Drawing Lines and Shapes. Before such work is given, show how to set a compass, and the best method of drawing a square or oblong with a ruler (top line, left side, right side, and bottom last). Examples:

1. Draw a 6″ line.
   Draw another line half as long.
2. Draw a 3″ circle.
   Divide it into quarters (thirds).
3. Draw a 3″ square.
   Divide it into square inches.
   Now cut the square into thirds.
   How many square inches are there in each third?
   Write the answer.
   (Child writes: ⅓ of 9=3)

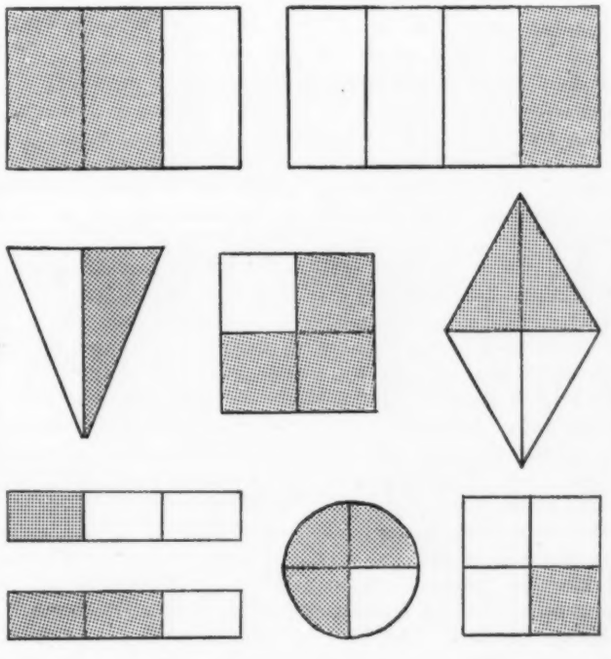
Studying Dozens and Half Dozens. Give each child twelve objects for counters, and have him write answers to problems.

1. Ann bought ½ dozen oranges.
   How many did she buy?
2. Jimmy and Judy were given ½ dozen crayons to divide equally.
   How many crayons did each child get?

Draw a red ring around the shapes that show halves.



Write below each picture how much of it is dark.



HIS BRIGHTER LITTLE SISTER

DOROTHY BRATTON

Teacher of English, Public Schools, Mattoon, Illinois

When a pupil is overtaken in school by a younger brother or sister, the situation is difficult for both. This article suggests a sensible approach.

> The teacher who has caught the spirit and vision of the new education will feel an added responsibility and a greater challenge to provide for the pupils a type of guidance that will develop their personalities and characters to the fullest extent. This teacher . . . . will realize the necessity of studying and evaluating all the factors in the child's environment before the behavior of the child adequately can be understood, and improved.
>
> If a pupil is failing to profit by the opportunities offered him in the classroom, the teacher has an additional task with that pupil. Study must be made of the particular case and situation to see what caused the failure, and through this means determine methods by which the educative process *can* function properly. . . . . Nothing that affects the welfare of the child can be ignored.
>
> From *Teacher's Guide to Child Development in the Intermediate Grades*, Chapter 3, prepared under the direction of the California State Curriculum Commission in 1936. Used by permission of California State Department of Education, Sacramento, California.

UNDER our present educational system, in which annual promotions are based upon established standards of accomplishment, with retardation as the lot of children who do not meet the requirements, a pupil sometimes catches up with a sister or a brother who is a year or two older. When this happens, it is not at all unusual to find that a "problem child" develops (if not indeed two problem children!), though previously neither child may have caused any special concern in his home or his school relationship.

If the children are both boys, or both girls, the situation is bad enough, but a more serious problem is likely to arise when the retarded child is a boy, and his younger sister catches up with him. In many cases the boy feels that he is being compared unfavorably with her and that the basis for comparison is not entirely a fair one.

Without knowing how to express himself, he may vaguely realize something that his parents and his teachers perhaps overlook; namely, that girls are naturally more inclined to care about details than boys are, and that they will go to far greater lengths to have things exactly right, so as to please the teacher and secure better grades.

He is not at all convinced that these little matters are as important as others seem to think. He doubts very much whether the extra time and effort expended by his sister in checking dictionary spellings and in rewriting compositions are worth while. Is she really brighter? Sometimes she seems to him extremely stupid to be placing such emphasis on minor matters. No doubt this problem will plague him as long as he remains in a school that tends to emphasize verbal intelligence and to minimize all other sorts.

It is possible, too, that the younger sister's personality is less pleasing than the boy's. She may be spoiled, and accustomed to having others hang upon her words. Because she is nearly always right at school, she may fall into the common error of setting herself up as a miniature authority elsewhere. Her bossiness is not likely to make her brother feel kindly toward her. Too often she is a talebearer, and this her brother will especially resent. Why should she mention it at home when he has missed most of his spelling words? And why, he wonders, should she even bring up the fact that she completed her arithmetic drills in eight minutes, and that he required fourteen minutes? (Why hurry, anyway, for that matter? If you finish early, the teacher just finds something else for you to do!)

The studious girl may quite easily become too bookish in nature. Perhaps she would profit greatly by forgetting occasionally her consuming desire for high grades, and by playing with her older brother and learning from him something of the give-and-take of group enterprise.

Let us next see how the situation affects the older child. In the first place, he is working under the obvious disadvantage of having lost prestige. By virtue of their greater years, older children should enjoy the privilege of being looked up to, and imitated by, younger sisters and brothers. With respect to schoolwork, that prestige is lost. Discouragement is probably great, and the fact that the older child never seems to care at all will not for one moment deceive the teacher who is interested in his mental health. He *does* care, and his caring may compel him to go to ridiculous lengths to conceal his hurt.

It may be, too, that it is only in the school situation that he is slow, yet because the school sends home a report card with his marks plainly indicated, to be compared with his sister's higher grades, the comparison is extended to other home situations. Unless the parents are very understanding indeed, they are likely to keep bringing up unfair comparisons that have no place in a sympathetic home.

Lastly, though he may always before have liked his sister and stood up for her, there may arise at this point an antagonism that he will unconsciously carry into later life, embittering a relationship that should rightly have proved satisfying to sister and brother alike.

A teacher who knows that one of her boys is likely not to pass, and that his sister is sure to come into her grade the next year, will go to any reasonable length to keep an awkward situation from arising. Perhaps extra tutoring at some point will help the older child to reach a passing mark. Or there may be more than one section of the grade, so that both children need not be assigned to the same teacher. Often a transfer can be managed, if an understanding teacher will co-operate with sympathetic administrators in the best interests of all concerned.

In those instances where, in spite of efforts to arrange otherwise, it becomes necessary for the two children to carry on the year's work in the same classroom, the teacher who knows something about mental hygiene has a real opportunity to do some constructive work. She will find out what the older child can do well, and she will then open the way for him to show that he can excel in that direction.

Perhaps he is musical, but has not been allowed to try out for band or orchestra, because "he needs his time on his lessons." She may be able to explain to his parents that through music he can gain satisfactions which formal classroom work can never supply, and they may be persuaded to let him start playing an instrument.

Possibly he can excel in sports. If he is overage, his greater size may very reasonably be an advantage here, and help to lessen the embarrassment he has probably been feeling.

In the classroom work it will often be found that wider outside experience has given him the background for many reports and demonstrations which will hold the younger children enthralled. One such overage boy in the upper grades was studying taxidermy outside of school. He was persuaded to bring several stuffed specimens that he had prepared, and to explain the process. His value to the class—in his own opinion as well as in theirs—increased from that day.

When committees are arranged, the older child should be made chairman occasionally, and be helped in advance by the teacher, so as to perform his duties creditably. He can be appointed captain of a group for drills, or leader in dramatic productions in which his younger sister or brother plays a minor role. All these devices will help him retain his self-respect, and will cause the younger child to admire him for the ability he displays. *(Continued on page 75)*

Parts of Speech—Conjunctions

A conjunction is a word used to join words, phrases, or clauses.
My dog is small but brave. I'll tell you when he comes.
We walked across the street and up the hill.

SOME CO-ORDINATING CONJUNCTIONS

A co-ordinating conjunction joins words, phrases, and clauses of equal value in a sentence; as, Either you must do it or I will.

and	nor	both--and
but	either--or	not only--but also
or	neither--nor	

SOME SUBORDINATING CONJUNCTIONS

A subordinating conjunction joins clauses of unequal value in a sentence; as, They came before he was ready.

after	how	though	as soon as
as	if	unless	in order that
because	since	until	so that
before	than	when	
except	that	while	

STORIES TO READ

The Flittermouse House

LUCRETIA PENNY

NEIGHBORS were forever saying that the old rickety Householder house would be blown off its hill someday by a prankish wind. That wasn't exactly the way it turned out, but the neighbors were getting warm when they guessed it, for something did happen.

The Householder house had three rooms in a row. The back room rested on the hillside. The middle room stood on short poles. The front room was on taller poles. The poles were thick and strong, but even so, the house had an unsteady look.

Not that old Mr. Householder minded. He liked his little three-room house—stilts, unsteady look, and all. He minded one thing only. He minded having a flittermouse in his attic!

It really wasn't much of an attic—a St. Bernard could hardly have turned around in it—but the flittermouse liked it. The flittermouse had moved in the minute the roof was put on and he stayed, living alone just as old Mr. Householder lived alone.

Whenever Mr. Householder would complain about the flittermouse in his attic, as he did daily, someone would say, "Why don't you get rid of him?"

"Turn a poor lone flittermouse out homeless into weather and the world!" he would say then. "No, sir! I want that flittermouse to leave me of his own free will."

"Then why don't you build him a house of his own to move to?" someone suggested at last.

"Well!" old Mr. Householder said, as though he thought it high time *somebody* told him what to do. Right away he went to see his brother's boy's boy Charlie Chester.

"C. C.," old Mr. Householder said, "I am not entirely an untalented man. I can make danceable music on banjo and mouth harp. I have twice tied brooms that took prizes at the fair, and I can start a fire without a match. But I am no carpenter."

Charlie Chester said, "No man has every talent, Uncle. What can I do for you?"

Old Mr. Householder replied, "You can bring your tool chest and build a good house for my flittermouse."

Charlie Chester said, "And have you a book on *Flittermouse Houses and How to Build Them?*"

"I have no such book."

"Then how am I to know what sort of house to build? I can build five kinds of houses without a book. For all others I must have directions."

Old Mr. Householder said, "Name the five kinds, C. C."

Charlie Chester counted them off on his fingers: "Barns, doghouses, dollhouses, birdhouses, and houses for humans."

His great-uncle shook his head. "Must I go on living to the end of my days with a flittermouse in my attic! You are no help to me, and my walk has been useless. It has begun to rain, besides."

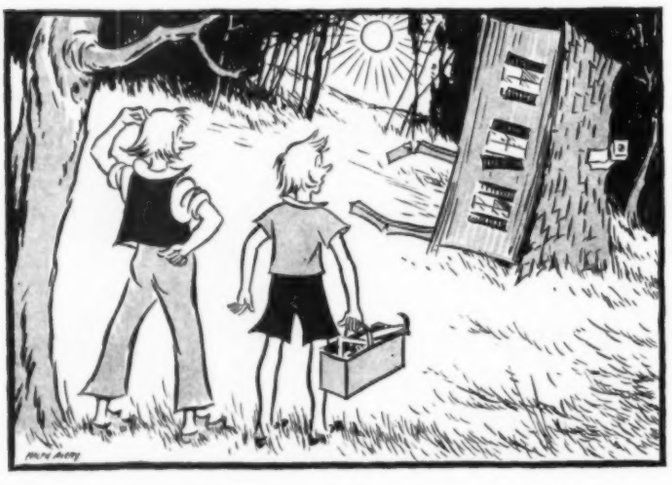
Charlie Chester said, "You must stay with me until the rain is over."

It rained for three long days and every day it rained harder than it had the day before. Old Mr. Householder played tunes on his mouth harp but they were sad tunes. Charlie Chester whittled a chain. On the fourth day the sun came out.

Old Mr. Householder went home the same day. That is, he went back to where his house had been when he left it. It wasn't there, but by following its tracks he soon found it.

The hard rain had washed the earth out from under the poles and the house had gone sliding to the bottom of the hill. There Mr. Householder found it standing on end.

He wasn't a bit pleased and he didn't think (*Continued on page 80*)



Surprise for Mother

DORTHA S. WALLACE

JIMMY walked, then he ran, and then he skipped a bit. His smile was big and bright, and in his hand he carried something. It was a white something that wasn't very large and wasn't very small, and that fluttered in the air when Jimmy ran.

Jimmy walked, then he ran, and then he skipped a bit, and soon he came to his home. He turned in at the little gate, which he closed very carefully, and then he ran into the house. The white something that wasn't very large and wasn't very small, and that fluttered in the air when Jimmy ran, was still in his hand.

"Mother," he called, "where are you?"

"Here I am, out in the kitchen, Jimmy," Mother answered, and almost before she was through talking, Jimmy was right there beside her. The white something that wasn't very large and wasn't very small, and that fluttered in the air when Jimmy ran, was still in his hand, but he was holding it behind him.

Mother looked up from the potatoes that she was peeling, and Jimmy said, "Guess what I brought for you."

"Let me think," Mother said, "is it something alive—like a cat or a dog?"

"No, it isn't alive," Jimmy answered with a twinkle in his eye. "Guess again."

"Is it something good to eat—like a cooky or candy?" Mother asked.

"No, it isn't something to eat," Jimmy said with a smile. "You may have just one more guess."

Mother thought and thought and thought; then she tried again. "Is it a flower?"

"No," Jimmy said with a laugh, "you didn't guess. See—it's a picture that I made in school today."

Jimmy gave Mother the white something that wasn't very large and wasn't very small, and that fluttered in the air when Jimmy ran, and Mother smiled a big, big smile. "Oh, how nice!" she said. "It's a picture of our very own house, isn't it?"

Jimmy nodded, and he felt happy all over when Mother took the something that wasn't very large and wasn't very small, and that fluttered in the air when Jimmy ran, and pinned it on the wall for everybody to see it!

OR TELL

A Friend of Isabella's

ELIZABETH WHITNEY

MARIA SANCHEZ lived with her widowed mother and her older sister Rosa in a three-room house in Mexico City. Señora Sanchez sat at a loom all day long and drew threads from plain linen tablecloths or lunch cloths, making beautiful designs. Maria and Rosa went to school, but they helped her in their spare time. Maria in particular did exquisite work for a girl who was only twelve years old.

One day she came home full of enthusiasm. "Oh, Mother," she exclaimed, "I've made the most wonderful friend! Her name is Isabella Velasquez, and she lives in a large house with a patio. She's told me all about it, and she says I must come to visit her sometime."

Señora Sanchez looked grave. "You must remember, Maria," she said, "that a girl who has a home like that will be able to have nice things that we can't afford. I hope that being with her will not make you feel dissatisfied."

Maria laughed. "You don't need to worry, Mother; it won't," she said cheerfully.

Each day Maria came home with new things to tell about Isabella. "Mother, Isabella has the nicest complexion. Mother, Isabella is the *neatest* person."

There was marked improvement in the way that Maria picked up her things and kept her clothes in good order. "Perhaps Maria's friendship with Isabella is a good thing after all," thought Señora Sanchez.

One evening, however, Maria came out of the bedroom with her hair piled in a fancy way on top of her head. "What have you done with your hair?" demanded Rosa, laughing.

"It's the way that Isabella does hers," Maria explained in an injured tone.

"Well," said Rosa, "it may look all right on Isabella, but it certainly doesn't on you."

"What do you think, Mother?" asked Maria, turning toward her mother.

Her mother looked up from the work she was doing. "I do not think it is your style, Maria," she said. "Do not try to copy Isabella in everything."

Maria went back and arranged her hair in the usual simple way. But Isabella and the things that Isabella did remained her chief topic of conversation.

One day she came home bearing an important announcement. "Mother," she said, "in three weeks our school will start practicing an Easter pageant. There is a singing group in it to represent the women who saw the empty tomb. Isabella and I are going to try very hard to be chosen for that group."

"But, dear," said her mother, "you know nothing about singing except what you have learned at school, and you haven't done any too well in that."

"You have a voice like a rooster," said Rosa.

"I think you're horrid!" exclaimed Maria, turning to her sister angrily. "I may not know much about music, but Isabella does, anyway. She's been taking singing lessons for two years. There's nothing to it, she says. During recess time at school she's going to teach me the exercises she practices, and I'm going to practice them at home."

"When in the world are you going to find time to practice at home?" asked Rosa. "You know we have to help with the drawn work all our spare time."

Maria blushed. "I—I thought maybe—for a while—I could be excused," she floundered.

"Certainly not," replied Rosa sharply. "We need her, don't we, Mother?"

Maria turned toward her mother, pleading. "Oh, please, Mother, *do* let me," she urged. "It would mean so *much* to get a part—"

(Continued on page 75)

Ticktock Tinker

ANNA L. BEST

HENRY!" Father's voice was stern. He listened at the door of the narrow stairway. No answer.

"Henry!" Again only silence. His back held stiff with resolve, Father softly climbed the stairs.

He opened the creaking bedroom door to look upon a too familiar scene. Henry was crouched over a shelf near the window which served as a workbench. His stockinged feet wriggled to the warmth of a kerosene lantern on the floor near by.

"Henry!"

The boy raised clear blue eyes. "Oh, hello, Father," he said. He reached for a clock screw with tweezers fashioned from a corset stay. He did not look alarmed. He seemed to have forgotten his father as he replaced the screw in the old clock.

"Henry, I've told you to quit fixing clocks for people unless they pay you. You're wasting your time."

"But I like to fix them."

"You're not to fix any more without pay. That's final."

"Yes, sir."

Father's eyes softened a little as he viewed the amateur watchmaker's tools—the crude tweezers, a shingle nail filed down for a screw driver, and two knitting needles similarly transformed. But his mouth remained firm.

Henry replaced the last parts of the clock. After he wound it he put his "bench" in order before ducking into his feather bed. In the morning he would deliver the clock on his way to school, if it still ran properly. He was sure it would.

Henry could no more stop repairing clocks than he could stop breathing. So now by various means he smuggled them to his room. He delivered the repaired timepieces via the rain spout outside his room. Afterwards he would shinny up the spout again. The boy was always on the lookout for more clocks to repair. It is small wonder the neighbors jokingly said, "Every clock in the neighborhood shudders when it sees Henry coming!"

The first watch that Henry remembered seeing belonged to a neighbor, Adolph Culling. He had brought it from Germany. Henry caressed it lovingly every chance he had. How he ached to get at its works!

Frank Hutchings brought a large gold watch to the Scotch Settlement Church one Sunday. As he showed it to Henry he complained, "It doesn't keep good time. I don't know what ails it."

"I can fix it." Henry was trembling in his eagerness. "Come with me over to Uncle's carpenter shop."

(Continued on page 73)

Paul Sample's

"MAPLE SUGARING IN VERMONT"

AN ART APPRECIATION LESSON

HARRIET GARRELS

Supervisor of Art, Public Schools, Washington, D.C.

PRESENTING THE PICTURE

Would you like to have a sugar heart? Doesn't that sound like a question from an old fairy tale? But some of us have had hearts (or pine trees or little men) made of the sweet sugar which the maple tree gives.

Many girls and boys who live in New England and in other northern states have helped to make the delicious creamy sweets. They know what a large quantity of sap must be collected and how long it takes to make maple sugar. All day and all night someone has to tend the boiling sap and feed the roaring fires until the sirup thickens and the sugaring-off stage is reached.

Our picture features the silvery loveliness of the bare maples. Soon they will show red-tipped buds bursting into lacy clusters of yellow flowers amid soft green leaves. The rich dark-green foliage of summer turns to red and yellow in fall, adding brilliance to the landscape. The sugar maple is ever a thing of beauty.

THE STORY OF THE PICTURE

A northwest wind is blowing, so it is a good day to collect sap. Frosty nights and sunny days cause the sap to flow. Is this a sunny day? What makes you sure the sun is shining? Which of the shadows do you notice first? They make an interesting pattern across the snow in the lower part of the picture.

What else has the artist silhouetted against the snow to add interest to the foreground? The strong contour of the fallen tree unifies the entire composition. One branch leads our eyes toward the center of the picture, the other directs attention to the man carrying buckets.

In this heart-warming picture, Paul Sample has successfully achieved his expressed desire "to combine the literal or storytelling aspect in some degree with the purely aesthetic elements in a picture." What story does he tell us?

From this picture, learn all you can about maple sugaring. It is a picture which is easy to read. Notice the buckets fastened to the trees to catch sap. How many are there? Did you notice them when you first glanced at the picture? The artist didn't mean that you should. How many men are carrying buckets? Where is the sap being taken? Why don't the men use an automobile for collecting the sap? In spite of the snow and bare winter trees the scene is warm and friendly.

Since Mr. Sample went to New England to live, he has observed and sketched many sugaring scenes. This one, he tells us, "brings together elements from various places and experiences in connection with sugaring. These were recorded in the form of studies and sketches, and the finished painting is thus a summing up or composite of these." He has pictured the essence of a local activity. He has used his imagination to select and organize. He has arranged people, trees, hills, and buildings in a beautiful design which appeals to our eyes and hearts.

Have you been wondering what happens in the weathered gray building near the center of the picture? What does the chimney suggest? Yes, this is the sugar house where the sap will be boiled and boiled until it thickens into sirup. Still further boiling and stirring yield maple sugar. It is poured into molds to harden.

When Mr. Sample selected gray and white for his picture he revealed a sensitive taste, and infused tranquil charm into the simple scene. How many different grays can you see? Where is greenish-gray used? Point out some dark gray areas. What color is the sky? What color would you call the shadows?

The earth is still in a dormant state and peace hovers over the landscape. There are no violent color contrasts. Even the small amounts of yellow and red used are subdued, or grayed, shades of those colors. Notice how the four small areas of red lead the eye from the foreground into the background of the picture where we see the home of the sugar-makers. Would you like to visit them at this season?

LOCATION OF THE ORIGINAL:
ENCYCLOPAEDIA BRITANNICA COLLECTION

THE ARTIST

Nothing in the early life of Paul Sample suggested that he would become an artist. Born in Louisville, Kentucky, in 1896, he attended Dartmouth College, where he played baseball, football, and the saxophone, and became a boxing champion.

The first World War interrupted his academic career. After more than a year of service in the Navy he returned to graduate in 1921. However, ill health soon forced him to go to Saranac Lake, in the Adirondacks. There, during the next four years, he decided he wanted to paint.

Mr. Sample was thirty years old when he began to study art. After a few months of work in New York with the famed Jonas Lie, he became a part-time teacher of art in the University of Southern California, but he kept on painting. In a short time he had gained nationwide recognition. High awards were given him by the Pennsylvania Academy, National Academy, and Carnegie Institute. He painted murals for post offices in California and Rhode Island. His paintings hang in the Metropolitan, Boston, and Brooklyn museums, the Chicago Art Institute, and other galleries.

After eleven years of teaching in California, this artist moved to New England. His wife is a native of Vermont and in that state the Samples settled with their young son Tim. Their home is at Norwich. At Dartmouth College, across the Connecticut River from Norwich, Mr. Sample became artist-in-residence.

In 1937 he did a group of fine paintings of seaports for the magazine *Fortune,* and in 1943 he accepted a war assignment as an artist for *Life.* In the pages of that weekly have appeared the pictures he painted while in the Pacific on a submarine and on a carrier.

Norwich, Vermont

DEAR BOYS AND GIRLS:

Each year I watch maple sugaring in Vermont. The country is usually heavy with snow, although the coming spring has taken some of the frost from the air. I rode out on horseback to make the sketches for this picture, as where I live the roads are in such bad condition in the early spring that an automobile would get stuck. The farmers when they finish making the sirup always have a "sugaring off" party. It is a happy time and everyone eats doughnuts and maple sirup hardened on snow. And then, too, everyone is pleased that the winter is almost over.

Your friend,

Paul Sample

PIONEER LIFE IN AMERICA

A UNIT FOR MIDDLE AND UPPER GRADES

KATHERINE JULIAN EDDINGTON

Teacher of Social Science, Central School, Wilmette, Illinois

Continuing this series of units on the early history of the United States, we present the third great division of time—the days of the pioneers.

IN SOME communities the introduction to a study of pioneer life can come through pupil experience. The children may know persons who were first residents of the community or who have heard tales of early days from those who were settlers. Girls and boys will delight in talking with such persons and bringing information back to the class. They may even be able to get an "old-timer" to come to school and describe their home town as it once was.

All this will help the children to visualize the growth of the community, to understand the changes that have taken place, and to appreciate that in many ways life today is much easier.

In schools where such first-hand experiences are not possible, there are other means of arousing interest, such as visiting a museum in which pioneer articles are exhibited, or examining pictures of early days.

CLASSROOM PLANNING

A. Questions suggested by the pupils.—These should be written on the blackboard and discussed.

1. How did the pioneers hunt?
2. What did the firearms of the period look like?
3. How were the bullets made?
4. What cooking utensils were used?
5. How did people cook in an open fireplace?
6. What tools did they have?
7. Was the making of maple sugar important in those days?
8. Were there other sweets?
9. How did the pioneers manage, without stores in which to buy things?
10. What schooling was there?

B. Understandings.—The pupils should have these understandings before they start to read, and should consider them frequently as they read.

1. We enjoy comfortable community life today because our pioneer ancestors braved the dangers of the wilderness.
2. A desire for the good opinion of his neighbors and his own self-respect usually made the pioneer a law-abiding citizen before a local government was formed.
3. Danger and hardship drew the pioneer families together with a strong feeling of brotherhood and friendship.
4. Brave men and women will endure much privation and suffering to gain their heart's desire.

C. Vocabulary.—Words new to the pupils should be put on the blackboard, pronounced, and discussed.

CONTENT MATERIAL

WHY PEOPLE MOVED WESTWARD

The victory of the English in the so-called French and Indian War (1754–60) greatly affected expansion in America, because it gave the victors control as far west as the Mississippi. The country became a much safer place for the whites, although some Indians remained hostile. The change was important to the people in Virginia, especially, because much of the land in that colony was worn out with tobacco growing and large plantation owners were buying more and more of the land. So some people were always wanting to push farther west.

The first families who came to America settled at the mouth of some river, where it was easy to ship goods and to receive them from across the Atlantic. In the northern and middle colonies, certain settlers pushed up the rivers as far as the foothills of the Allegheny Mountains. The falls in the rivers furnished water power for the pioneers, and at those points towns soon began to spring up.

However, the rough land did not suit the farmer from Virginia who was used to rich soil. Cumberland Gap afforded a comparatively easy land route over the mountains, and many families began moving through it to the West.

There were three types of pioneers, each very important to the others. The first type was the hunter who traveled afoot or on horseback with his gun. When such a man found too many cabins being built around him, and larger game becoming scarce, he moved farther into the wilderness. Daniel Boone is the best representative of this type. On trips back home, such hunters carried tales of rich country and bountiful game which made the restless Virginia farmers eager to look for a new home. Great numbers of deer, elk, and buffalo were killed by these men.

Then came a more domestic hunter who settled in a new location, built a home, and pastured his stock in the woodland, but who lived mostly by his rifle. Because he was a hunter and not a farmer, he tilled a small field very badly, killed many trees by thoughtless handling, and, when neighbors moved too close for his taste, sold his home and pushed farther west.

The farmer pioneer came last. He built a home, at first crude, later improved with barns and other buildings; carefully tilled his land, which he meant to hold; and settled down with his wife and children to spend his life. All three types of pioneer led a hard and dangerous life, requiring great courage; all three were important and necessary to America.

WHAT THE PIONEERS OWED TO DANIEL BOONE

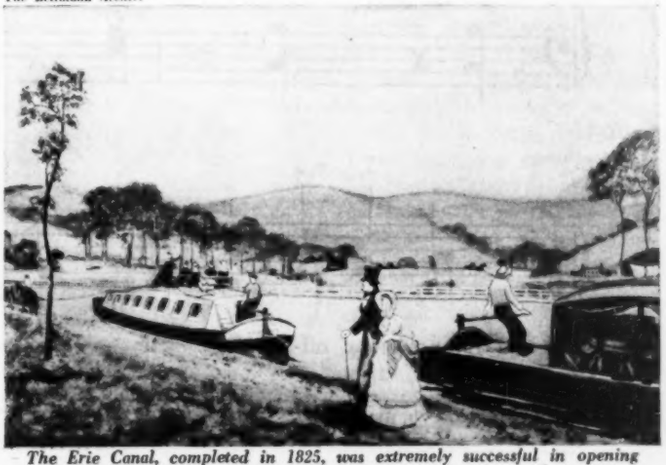
Daniel Boone, most famous of all the hunters, was born in Pennsylvania, but when he was sixteen his parents moved to North Carolina. At twenty-six, he began hunting and trapping over the Alleghenies. He became skilled in woodcraft and a fine marksman.

When tales of rich "Kentucke," as it was then called, reached him, he blazed a trail into that dangerous wilderness. For two years he wandered along through wild country. In 1773 he packed up his family, and with five other families started for Kentucky, but was *(Continued on page 76)*

Courtesy, Washington University, St. Louis, Mo.

This painting by George Caleb Bingham gives us an idea of the rugged country through which Daniel Boone and his pioneers traveled westward.

The Bettmann Archive

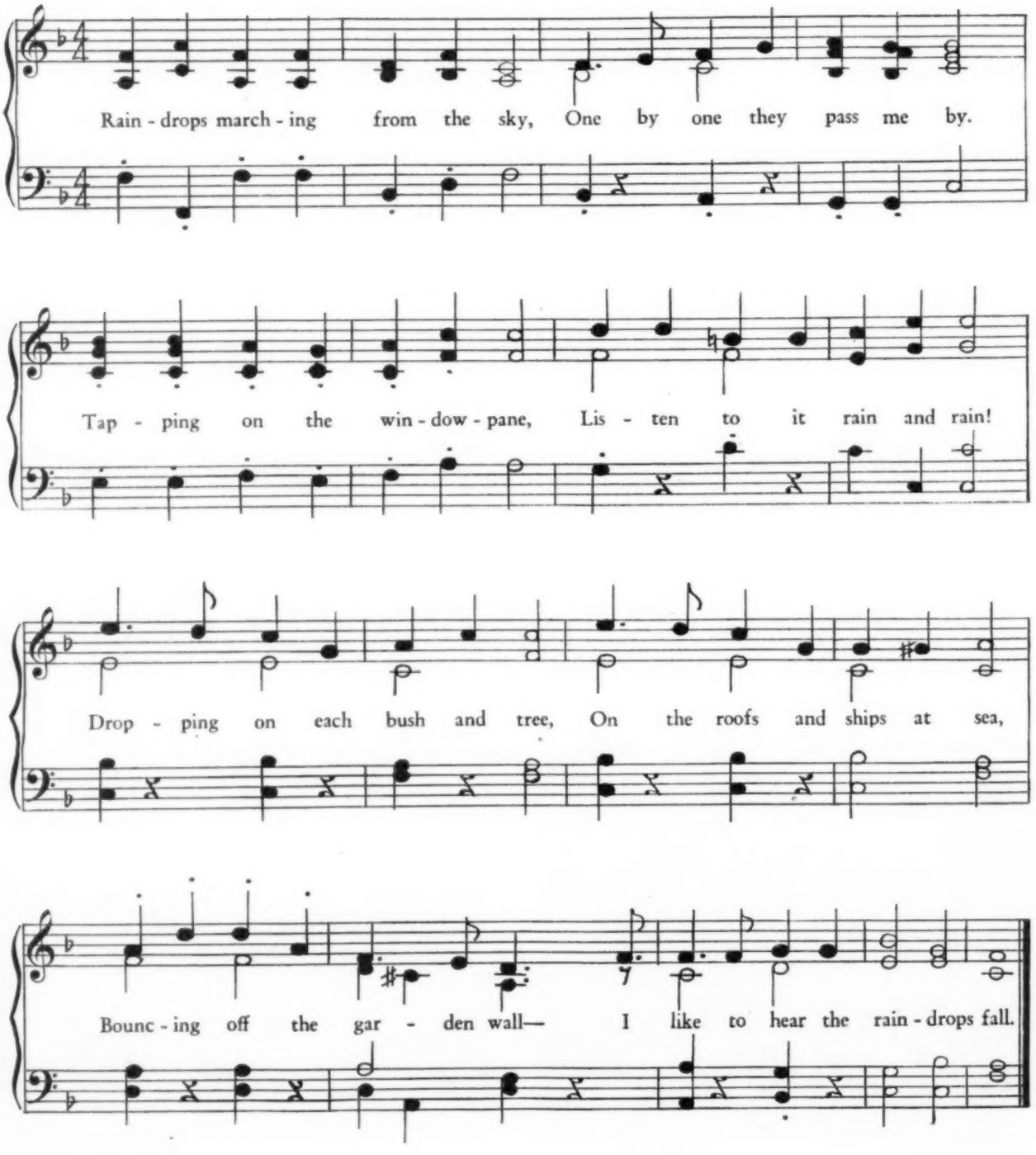


The Erie Canal, completed in 1825, was extremely successful in opening new territory for settlement and developing transportation and commerce.

Program Material

PLAYS, SONGS & VERSE

RAINDROPS

WORDS AND MUSIC BY MAIDA ZULICH

Rain - drops march - ing from the sky, One by one they pass me by.
Tap - ping on the win - dow - pane, Lis - ten to it rain and rain!
Drop - ping on each bush and tree, On the roofs and ships at sea,
Bounc - ing off the gar - den wall— I like to hear the rain - drops fall.

PLANT A TREE

AN ARBOR DAY PLAY FOR MIDDLE GRADES

CATHERINE URBAN

CHARACTERS AND COSTUMES

JACK—Wears school clothes.
BIRD—A girl or a boy dressed in a bright bird costume.
MARTHA—A poorly dressed child.
LUMBERMAN—Dressed in a lumberman's jacket.
CONTRACTOR—Wears business suit or overalls.
JOHNNY APPLESEED—Wears a pioneer costume.

SETTING

A well-furnished living room.

(*Jack is seated at a table, writing, and seemingly having a difficult time.*)

JACK—Oh, this old composition on Arbor Day that I have to hand in tomorrow! I know that Arbor Day was started by J. Sterling Morton of Nebraska, but that's as far as I can go. I just can't think of another thing to say. (*Rests head in hands.*)

(*Bird runs in, flies about the room, whistles near Jack's ear, and gets his attention.*)

JACK—Goodness! Who are you?

BIRD—Just a bird. I was flying by when I heard you talking about Arbor Day, and I thought I'd better stop and tell you about my ancestors.

JACK—Your ancestors?

BIRD—Yes. You see, you are lucky to be living where there are trees. You enjoy the birds that live in the trees, don't you?

JACK—Of course, I am fond of the birds, and I'm glad trees shelter them. But I like trees anyway—they are fun to climb, and some have nuts or fruit. What has that to do with your ancestors?

BIRD—Oh, our family lived in the Middle West long before the pioneers reached that section. Then the Middle West had beautiful forests. But after the settlers came and cut down the trees to make their farms, the birds had no place to live. (Trees not only serve as our building sites, but the leaves hide us from our enemies, and the worms and bugs in the trees provide us with our food.) So my ancestors just had to move farther west. (*Shrugs.*)

JACK—Don't birds live in that part of the country any more?

BIRD—Yes, there are ground birds and meadow birds, but most of them are not very bright in color, and some do not sing.

JACK—I shouldn't like that.

BIRD—Some of the people have had to move, too.

JACK—Really?

BIRD—Yes. Wait just a moment. (*Turns from Jack and whistles. Martha, Lumberman, and Contractor enter.*) Martha, please tell Jack why you had to leave Oklahoma.

MARTHA—All right. I lived on a farm, Jack. I played there with my sister and brother, and we all loved it even though there were no trees. But there was nothing to hold the rich soil in place, so winds and floods carried it away. No matter how hard my father worked, very little would grow in the soil that was left, and we were very poor.

JACK—I know that trees serve as windbreaks.

MARTHA—Yes, and the roots hold the soil in place. Because they had been cut down, and the heavy topsoil had been carried away, soon only sand was left. Then we had a terrible time. The winds blew the sand all about and it was hard to breathe. Nothing would grow and we had to move away. It seems such a terrible waste. All that land and nothing can grow on it!

LUMBERMAN—Not only that, but our country needs more and more lumber.

JACK—Aren't there still plenty of trees in other sections that can be made into lumber?

LUMBERMAN—By no means! We have learned our lesson and never again will we cut down whole forests at a time. Now we cut only the largest trees and leave the rest for the future. But those we do cut are not enough to supply all the things needed.

CONTRACTOR—I am aware of that fact. A great many people in this country would like to have new homes. They need them but there is so little lumber that many will have to wait.

JACK—But there are new materials being used in building!

CONTRACTOR—Yes, fortunately, but lumber is needed badly.

LUMBERMAN—Chemists discover new uses for lumber daily—things we never dreamed could be made from wood.

JACK—I am beginning to see that trees are very important. How can I help?

BIRD—You can help prevent the useless waste of the trees that are left by being very careful about fires. Every year forest fires consume acres of trees.

JACK—Oh, I'm always careful about putting out campfires.

BIRD—That's good. Then, too, you must be careful not to make any holes or slashes in trees. Often tree pests enter such holes and soon kill the trees.

JACK—I'll be careful not to harm any trees that way.

BIRD—Fine! Then there is just one more person you should see. (*Whistles and Johnny Appleseed enters.*) Johnny, this is Jack. Jack, this is Johnny Appleseed.

JOHNNY APPLESEED—That is what people call me, though I'm really John Chapman.

JACK—How did you get such a queer nickname?

JOHNNY APPLESEED—A long time ago when I was a pioneer going from village to village, I always carried a bag of apple seeds with me to plant near cabins or on river banks, and so folks began to call me Johnny Appleseed.

JACK—Why, I could do the same! I could plant a fruit tree so that later some other child could have it to play in or rest under, and its fruit to eat.

BIRD—Yes. You might even help to bring some of the members of my family back to those places they have had to leave.

LUMBERMAN—Be sure to plant your tree where it can thrive.

JACK—That's right. I'll let someone help me decide where to put it. I understand now why Mr. Morton thought it important to set aside a day on which to plant a tree. Thank you very much. I am going to get busy on my composition. And on Arbor Day I'm going to plant a tree!

WHAT IS INDIA?

A CHORAL READING FOR MIDDLE AND UPPER GRADES

HAZEL R. MITTELMAN

Curriculum Supervisor, Fourth to Eighth Grades, Public School 37, New York, N.Y.

The first section which follows may be spoken by one child, or divided among several. During the rendition, a phonograph plays softly "Song of India" or "Far-Off India" or "Hindu Instrumental and Vocal Music" (Victor Records 4303, 25464, and 24548, respectively).

India—land of mystery and contrast, of ancient and modern intermingling.

Narrow carts, like tiny covered wagons; turbaned riders squatting low behind their tired horses.

And fortune-telling gypsies—faces browned from burning sun, white teeth glistening, wandering, roaming over India's south lands.

Long-robed musicians, snake charmers crouched on dirty pavements, playing sweet flute music.

And barbers, making the roadside their shop and passers-by their customers; shaving, cutting, gossiping—endlessly, endlessly, on the baked-stone street.

The traveling troubadour from the Punjab, white-bearded and white-robed and white-turbaned; graceful fingers plucking the strings of his long-bowed sarangi.

Worshipers facing east, to greet the rising sun; and bathers in the holy Ganges, making pure their shrunken bodies.

This is India—ancient India, living as her grandsires lived.

This is India—modern India, living close to smoking chimneys and giant humming factories.

This is India—mystic India, with her temples and her priests and her people feeling small and helpless beside the vast mountains and the savage winds and the wild rains that devour the earth.

This is India—living India, filled with the vision of freedom.

The following section is presented as choral speaking, with the group divided into high, low, and medium voices.

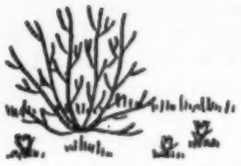
ALL (*slowly*)—We are India—

LOW—An India of teeming millions;

HIGH—Millions in the mountains,

HIGH SOLO—In the lofty Himalayas,

MEDIUM SOLO—In the sacred Himalayas. *(Continued on page 74)*



A TREASURY OF VERSE

WRITTEN IN MARCH

WILLIAM WORDSWORTH

The cock is crowing,
The stream is flowing,
The small birds twitter,
The lake doth glitter,
The green field sleeps in the sun;
The oldest and youngest
Are at work with the strongest;
The cattle are grazing,
Their heads never raising;
There are forty feeding like one!

Like an army defeated
The snow hath retreated,
And now doth fare ill
On the top of the bare hill;
The ploughboy is whooping—anon—anon:
There's joy in the mountains;
There's life in the fountains;
Small clouds are sailing,
Blue sky prevailing;
The rain is over and gone!

THE ELEVATOR

DOROTHY BARUCH

The elevator
In the store
Has a door
That slides
Open—closed.
Then the driver moves a handle,
And up and up
The elevator slips
And *stops*
And *out* go some people
And *in* come some people.
And up and up the elevator slips
And stops
And out go some people
And in come some people.
And down and *down*
The elevator drops
To the floor
Where I
Get out.

PUSSY WILLOW

UNKNOWN

There are willow pussies
Clad in furry hoods,
And a robin singing
In the maple woods.
There's a springing crocus,
And a budding larch,
Who'd ever think that springtime
Came along in March!

COURAGE

VICTOR HUGO

Be like the bird, who
Halting in his flight
On limb too slight
Feels it give way beneath him,
Yet sings
Knowing he hath wings.

PLANTING A TREE

NANCY BYRD TURNER

Roots, take firm hold,
Catch and cling with a will
In the new-turned mould.

Sap, rise in the stem;
Work into the bud and leaf
And nourish them.

Sun, day after day
Shine on this growing thing
In your golden way.

Rains, warm from the west,
Clear and clean from the south,
Here do your best.

Winds gathering near,
Be not too boisterous,
Deal gently here.

This shall my prayer be:
God of all growing things,
Bless Thou my tree!

IN MARCH

HELEN ADAM

Shake, bare branches,
And rustle, grass;
Streams, go merry,
And wood-birds, sing;
Dance, gay shadows,
But let me pass—
Hurrah! and hurrah
For spring!
It's oh for the hills,
The wild, free hills,
And the fresh wide scent of the plain,
For frisking lamb
And glittering rills!
Springtime's here again.

A WISH

FRANK DEMPSTER SHERMAN

I often sit and wish that I
Could be a kite up in the sky,
And ride upon the breeze and go
Whatever way it chanced to blow;
Then I could look beyond the town,
And see the river winding down,
And follow all the ships that sail
Like me before the merry gale,
Until at last with them I came
To some place with a foreign name.

PRAIRIE FOLKS

HAMLIN GARLAND

Pioneers

They rise to mastery of wind and snow;
They go like soldiers grimly into strife,
To colonize the plain; they plow and sow,
And fertilize the sod with their own life
As did the Indian and the buffalo.

Settlers

Above them soars a dazzling sky,
In winter blue and clear as steel,
In summer like an arctic sea
Wherein vast icebergs drift and reel
And melt like sudden sorcery.

Beneath them plains stretch far and fair,
Rich with sunlight and with rain;
Vast harvests ripen with their care
And fill with overplus of grain
Their square, great bins.

Yet still they strive! I see them rise
At dawn-light, going forth to toil:
The same salt sweat has filled my eyes,
My feet have trod the self-same soil
Behind the snarling plow.

COMING OF SPRING

NORA PERRY

There's something in the air
That's new and sweet and rare—
A scent of summer things,
A whir as if of wings.
There's something, too, that's new
In the color of the blue
That's in the morning sky,
Before the sun is high.

And though on plain and hill
'Tis winter, winter still,
There's something seems to say
That winter's had its day.
And all this changing tint,
This whispering stir and hint
Of bud and bloom and wing,
Is the coming of the spring.

MARCH

LUCY LARCOM

March! March! They are coming
In troops to the tune of the wind:
Red-headed woodpeckers drumming,
Gold-crested thrushes behind;
Sparrows in brown jackets hopping
Past every gateway and door;
Finches with crimson caps stopping
Just where they stopped years before.

March! March! They are slipping
Into their places at last:
Little white lily-buds, dripping
Under the showers that fall fast;
Buttercups, violets, roses;
Snowdrops and bluebell and pink;
Throng upon throng of sweet posies,
Bending the dewdrops to drink.

March! March! They will hurry
Forth at the wild bugle-sound;
Blossoms and birds in a flurry,
Fluttering all over the ground.
Hang out your flags, birch and willow!
Shake out your red tassels, larch!
Up, blades of grass, from your pillow!
Hear who is calling you—March!

Acknowledgment is hereby made to the following for permission to reprint verses: the author for "The Elevator" from *I Like Machinery;* the author for "Planting a Tree"; Houghton Mifflin Co., for "A Wish" from *Lyrics of Joy,* "Coming of Spring," and "March"; the daughters of Hamlin Garland for "Prairie Folks" from a book of the same title.

"In March" was written when Helen Adam, a Scotch girl, was nine years old. It was published in a book of her childhood poems entitled *The Elfin Pedlar.*

CARLOS MAKES A DISCOVERY

FOR MIDDLE AND UPPER GRADES

MARGARET GOFF CLARK

Formerly, Teacher, Sixth Grade,
Public School No. 11, Buffalo, New York

After journeying to see a great new volcano, a Mexican boy who loves to paint meets an artist and learns something that is worth remembering.

SCENE 1

(*It is early morning and dark. Carlos is sleeping on his mat upstage right. Manuel calls him and talks from without, left.*)

MANUEL—Carlos! Carlos!

CARLOS (*sleepily*)—Yes, Papa.

MANUEL—Get up. The burro is hungry.

CARLOS (*sitting up*)—It's still dark. Why does Alfredo have hunger pains so early?

MANUEL—Enough, Carlos. Get up and ask the burro why he is looking about for his food. Your sister is up before you and has already gone for water.

CARLOS (*wearily*)—Yes, Papa. (*He rises and pulls on the white trousers, which were on the mat beside him, and fastens his sandals. Enter Cristina, carrying large jug of water.*) Good morning, Cristina.

CRISTINA (*good-naturedly*)—Well, lazybones, what gets you up?

CARLOS (*putting over his head the serape which had covered him as he slept*)—That burro Alfredo says he is hungry and will not haul corn to market without his breakfast. So I must get up and feed the little beast!

CRISTINA (*laughing*)—To hear you talk, one would not guess you love Alfredo only a little less than Mama.

CARLOS (*washing his face in a bowl of water*)—What a dream I had!

(*Enter Lucia, carrying sticks.*)

LUCIA—A dream? Of what? (*Carries sticks to cooking stove, kindles fire, and prepares breakfast as conversation continues.*)

CARLOS—I was in a soft bed with white sheets, Mama. A man came to the door and said, "Señor, your carriage is waiting." And I rode behind two white horses to a beautiful meadow where I painted on a large white canvas with many paints—

LUCIA—An artist you were in your dream, Son? You have the same dreams at night that you have in the daytime. You had better get to your work.

CARLOS—Yes, Mama. (*Exits.*)

CRISTINA—In school the teacher says Carlos could be an artist. He draws strange cities and deserts and camels and— The teacher says he would be a good artist if he would paint things of which he knows—like our mountains.

LUCIA—Carlos always loves the faraway. Even now he loves school because it does not open until next month. He dreams too much of what he wishes.

CARLOS (*enters breathlessly*)—Agustin—the seller of pottery—outside—says fire came out of the ground. He saw it!

LUCIA (*excitedly*)—What is this? Fire out of the ground? Go, get Agustin!

CARLOS (*runs to door, left, beckons, calls*)—Agustin!

(*Enter Agustin carrying large collection of pottery.*)

AGUSTIN (*puts pottery on floor, removes his sombrero, bows*)—Señora Lucia, good morning. Do you need a new pitcher, a bowl?

LUCIA—Later, it may be, but now, what is this about fire from the ground?

(*Enter Manuel who stands at door left, listening.*)

AGUSTIN (*facing the door*)—Good morning, Manuel. (*Manuel nods.*) It is true, Señora, about the fire. As you know, I travel where I will, selling my pottery.

LUCIA—Si, si. Get on with your story—the fire—the fire from the ground.

AGUSTIN (*continues calmly*)—I journeyed north to the village of Paricutin and there I saw the volcano and heard about its beginning.

MANUEL—Volcano?

AGUSTIN—Si, si, on the land of a farmer, like yourself, by name Señor Pulido. He and his son saw flame from the ground shooting up (*he gestures*), then ashes and smoke. Now there is a mountain grown right on his land. I saw it. I myself, I looked at it.

CARLOS (*excitedly*)—How tall is it, Señor Agustin?

AGUSTIN—Already it is quite a hill, and it is growing all the time.

LUCIA—And what is the name of this growing hill?

AGUSTIN—They call it Paricutin.

MANUEL—Come, eat with us and tell us more. Lucia, a bowl for Agustin.

LUCIA (*tartly*)—Yes, of course, Manuel. I know what to give a guest.

(*They all sit on floor near cooking stove. Lucia ladles food from large pot into small bowls.*)

SCENE 2

(*Evening of the same day. Lucia and Cristina are sewing. Carlos and Manuel sit wearily on mats on the floor.*)

MANUEL—We had a long day's work at the market. We sold all the corn, Lucia. (*Stretching.*) Ah—it is good to be home!

CARLOS (*dreamily*)—All day I have thought about Paricutin. I wish we had a volcano. What fun to watch it breathing fire and smoke!

CRISTINA (*tauntingly*)—What fun to sweep up the ashes of this volcano!

CARLOS (*stands, walks about restlessly*)—It must be beautiful at night with its pointed head against the sky and its crown of fire. I would give ten pesos to see it!

CRISTINA—Where would you get ten pesos?

LUCIA—It would be wonderful to see, but it is too far away.

CARLOS—Agustin, who was here this *(Continued on page 70)*

CHARACTERS

CARLOS—A Mexican boy about thirteen years of age.
MANUEL—His father.
CRISTINA—His younger sister.
LUCIA—His mother.
AGUSTIN—A traveling seller of pottery and household necessities.
OLD WOMAN—A refugee.
MUSICIANS—Any number of strolling performers, both men and women.
REFUGEES—Any number—men, women, and children.
ARTIST—A man of middle age.

COSTUMES

Carlos, Manuel, Agustin, and men and boys who are Refugees wear white trousers and coatlike overblouses of thin cotton material. (Pajama suits may be used.) Each wears a serape (a striped rectangle with a slit in the middle to go over the head), and, when out of doors, a broad-brimmed straw hat. Cristina, Lucia, Old Woman, and the women and girls who are Refugees wear full long skirts and short-sleeved thin blouses. A long scarflike shawl (rebozo) is worn over the head and about the shoulders. All characters wear sandals or are barefooted. The women Musicians wear very bright, full, long skirts and elaborately decorated blouses, and much jewelry. The men Musicians wear tight-fitting dark trousers, ornamented long-sleeved blouses, and gay serapes folded over one shoulder. Artist wears modern summer slack suit.

SETTING

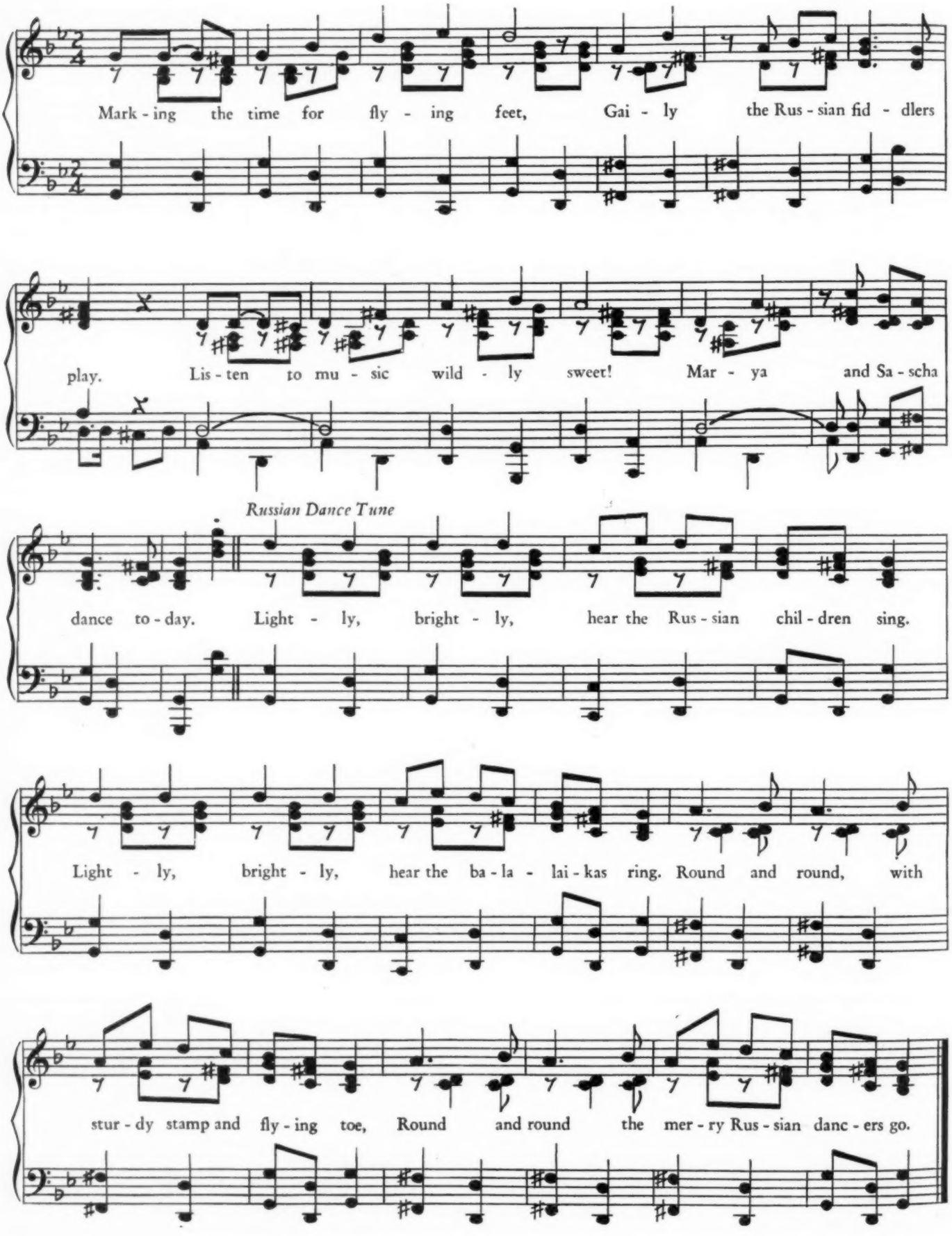
Scene 1.—Interior of a simple one-room Mexican home. Blanket with Indian design, or serape if available, hangs on one wall. Straw mats are on the floor for beds. There is a cooking place of adobe about three feet high with holes for cooking. (Use a large box painted brown.) Pottery jugs and bowls are on the floor.

Scene 2.—Same as Scene 1.

Scene 3.—On the road to the volcano at Paricutin. There are many green trees and bushes. Mountains, snow-capped, are in the background.

Scene 4.—Nearer to Paricutin where desolation reigns. A large stone is right of center. Two or three large leafless branches represent trees.

WHEN RUSSIANS DANCE

WRITTEN AND ARRANGED BY J. LILIAN VANDEVERE

Mark - ing the time for fly - ing feet, Gai - ly the Rus - sian fid - dlers
play. Lis - ten to mu - sic wild - ly sweet! Mar - ya and Sa - scha
Russian Dance Tune
dance to - day. Light - ly, bright - ly, hear the Rus - sian chil - dren sing.
Light - ly, bright - ly, hear the ba - la - lai - kas ring. Round and round, with
stur - dy stamp and fly - ing toe, Round and round the mer - ry Rus - sian danc - ers go.

A GINGERBREAD BOY

Handwork

ARTS & CRAFTS

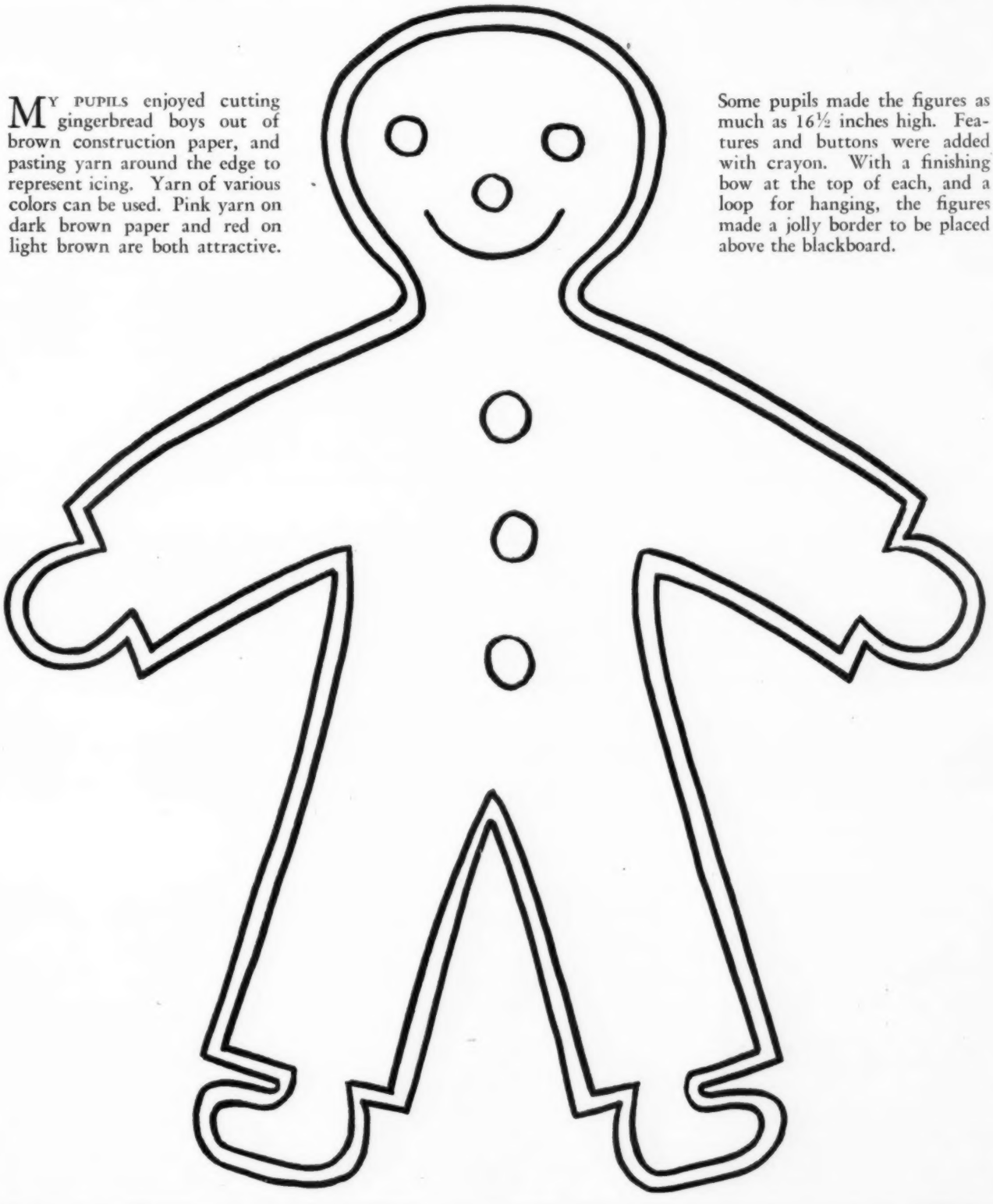
FOR PRIMARY GRADES

BETTY MARIE FENTON

Teacher, Fourth Grade, Kearsley School, Bucyrus, Ohio

MY PUPILS enjoyed cutting gingerbread boys out of brown construction paper, and pasting yarn around the edge to represent icing. Yarn of various colors can be used. Pink yarn on dark brown paper and red on light brown are both attractive.

Some pupils made the figures as much as 16½ inches high. Features and buttons were added with crayon. With a finishing bow at the top of each, and a loop for hanging, the figures made a jolly border to be placed above the blackboard.

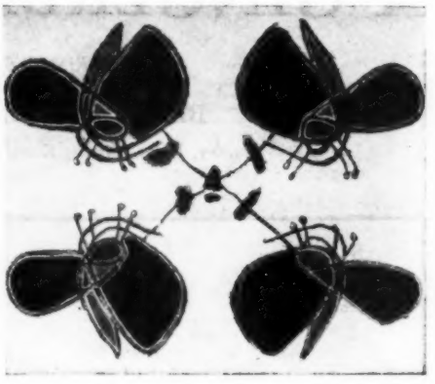


BEGIN DESIGN with A BIT of TWINE

FOR UPPER GRADES

ANNA DUNSER

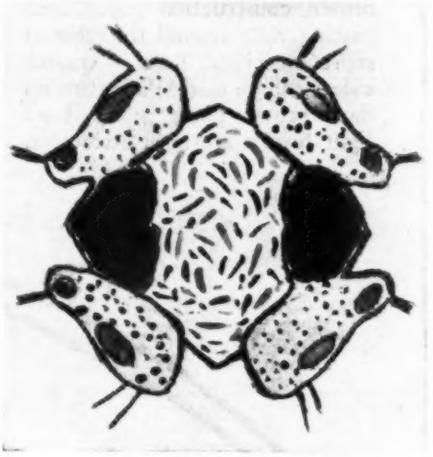
Director of Art,
Maplewood–Richmond Heights Schools,
Maplewood, Missouri

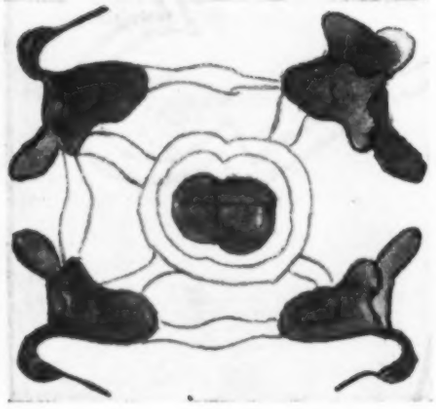


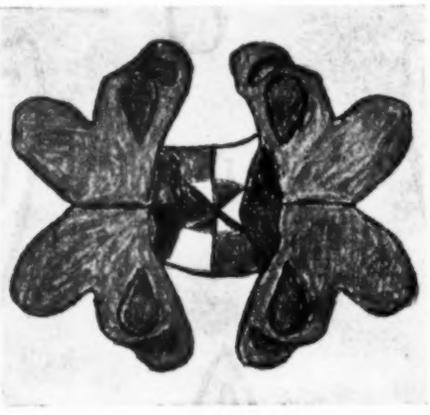
QUITE often an upper-grade teacher is faced with the task of teaching children who are not interested in art. She finds that they hesitate to try anything bearing the label of "art." For years they have believed that they "lack artistic talent," or that "art doesn't run in the family." Consequently a teacher has hard work persuading them to make the first mark. When they say they don't know how to begin, she needs a little device for encouraging a start.

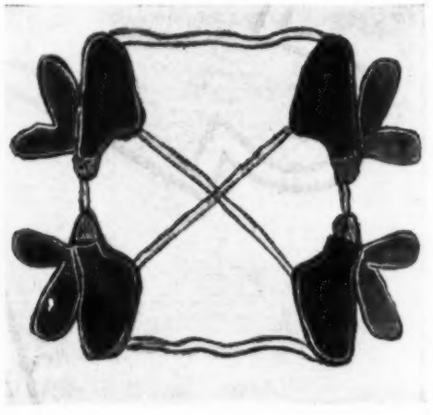
Here is a procedure, outlined step by step, which offers a good beginning.

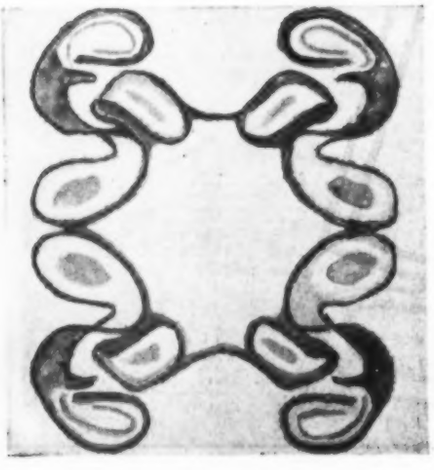
The teacher gives each child a piece of paper 9″ square, a piece of string 18″ long, and a box of crayons. She first instructs the class to fold the paper across the center into halves and then across the opposite way. Now the folded paper is placed upon the desk, with one fourth of its surface exposed. The string is held (at the middle or otherwise) above the folded paper, clearing it by a foot, and then dropped. Some parts of the string may go off the paper, but that will not matter. *(Continued on page 73)*

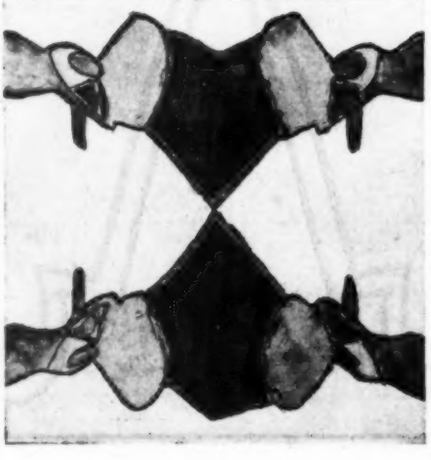


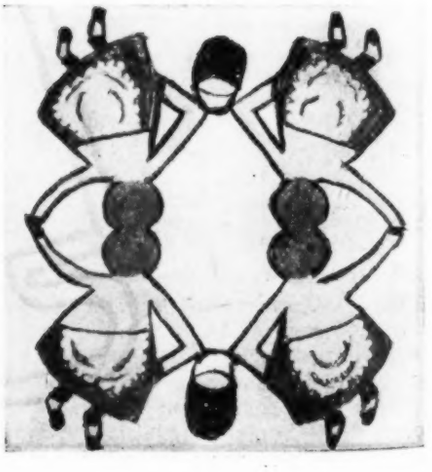


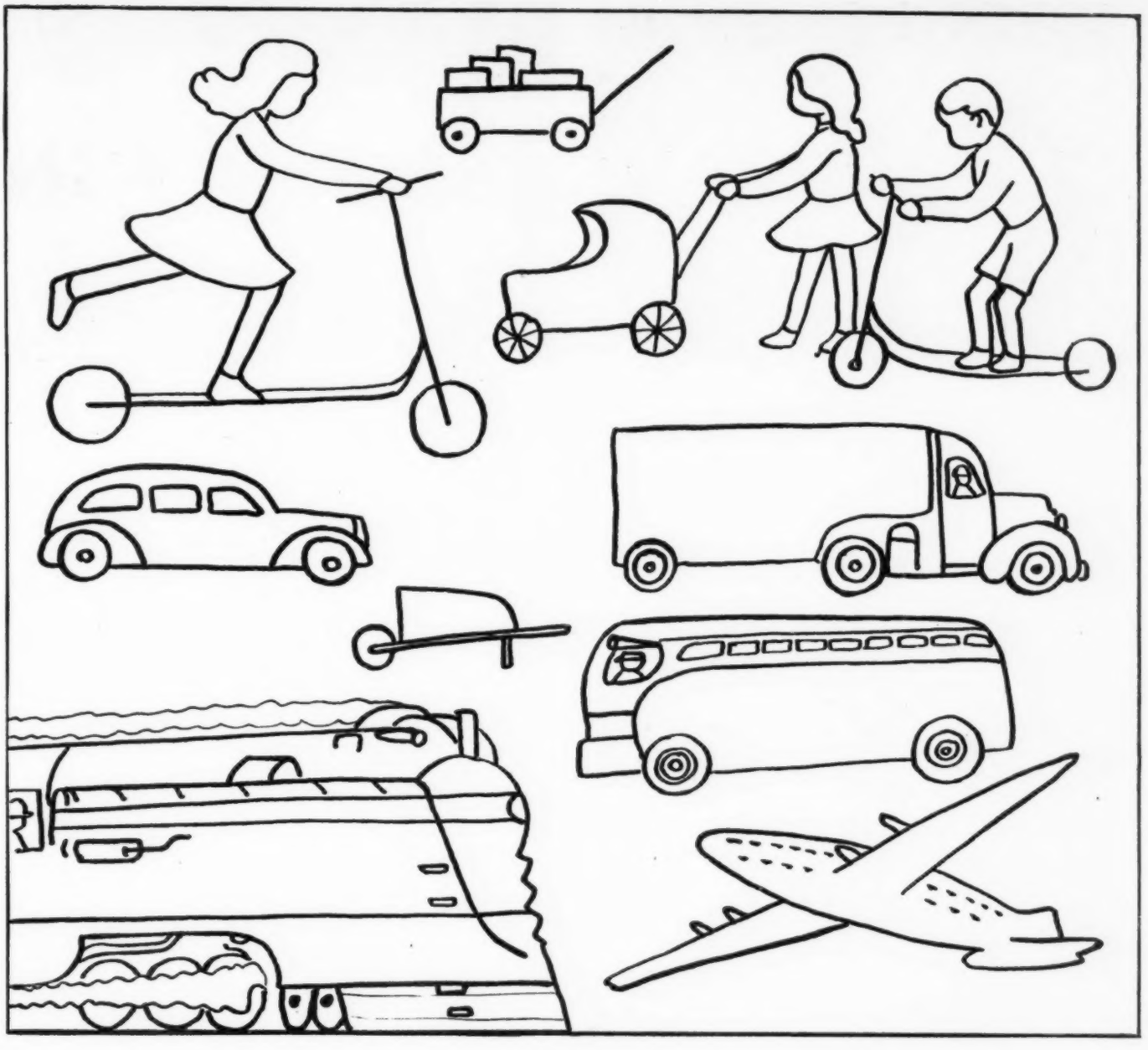












TRANSPORTATION PICTURES

FOR PRIMARY GRADES

JESSIE TODD

Instructor in Art, Laboratory School, University of Chicago

PRIMARY-GRADE children enjoy drawing pictures of themselves riding a scooter, wheeling a doll carriage, or using a wheelbarrow or a wagon. They like to draw the trucks, automobiles, and buses which they see on the road. Even though trains and airplanes are hard to draw, many children, especially boys, can make them very well.

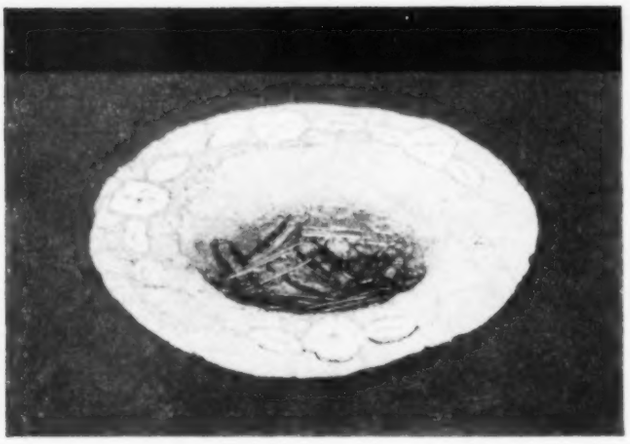
The train seems to be the most popular means of transportation. Often a teacher can proceed as follows in a second grade. Let children volunteer to draw trains on the blackboard. As five or six children are at work, those in their seats will be heard to say, "Jim, yours is swell." "John's is wrong in front." "I like Joe's best."

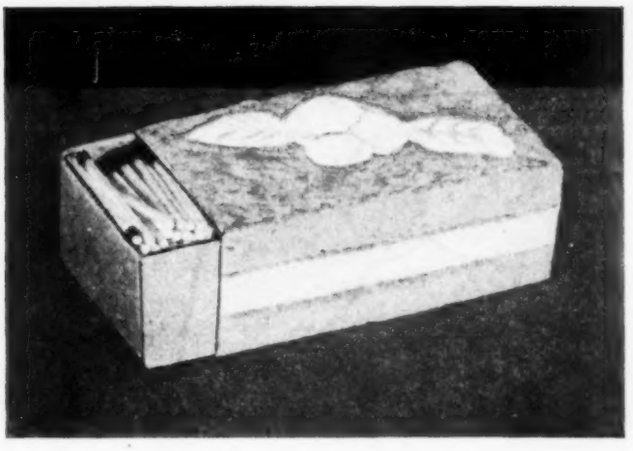
Then erase the drawings and let the group together draw one train. The children may choose the boy who is to begin, the one who is to continue, and the others who are to add details.

At this point the teacher may take the children to see a train. When they return to school they will try to draw the train from memory. Some of those who at the beginning could do very little with the train drawing will do the best work now that they have seen a real train.

Next the teacher may place on the bulletin board any number of pictures of trains, both old-fashioned and modern. Perhaps some child will volunteer to bring his electric train to school. Many trains will now be drawn—good trains too.

The teacher or one of the children may suggest that the class draw pictures of trains going over high bridges. In case the bridges are to span rivers on which boats are moving and over which an airplane is flying, the children will need big pieces of wrapping paper, big brushes, and tempera paints so that all of the things can be made large. *(Continued on page 81)*





A NEW CREPE-PAPER ART

FOR MIDDLE AND UPPER GRADES

KATHARINE M. OLSON

Formerly, Supervisor of City Playgrounds, Hastings, Nebraska

CHILDREN can create a variety of beautiful, durable articles from papier-mâché, made according to the following very simple instructions. Cut into small pieces enough crepe paper of the desired color to fill a teacup. Then mix together ¼ cup salt and ¼ cup flour. Add water until the mixture has the consistency of thick cream. Drop this mixture spoonful by spoonful onto the cut crepe paper. Mix them together with the hands until the paper loses its identity and the papier-mâché acquires the firmness of a soft modeling clay.

The papier-mâché is now ready to be molded, or applied to any article that is to be decorated. Press it firmly onto the surface and at the same time spread it as thin as possible. Beads may be put into the papier-mâché while it is still wet; or it may be ornamented with gilt paint, metallics, or water colors after it is thoroughly dry.

Perhaps the simplest piece for a beginner to attempt is a square or a circle of corrugated cardboard covered with papier-mâché, to make a wall plaque. The children will have many ideas for decoration which they will want to try.

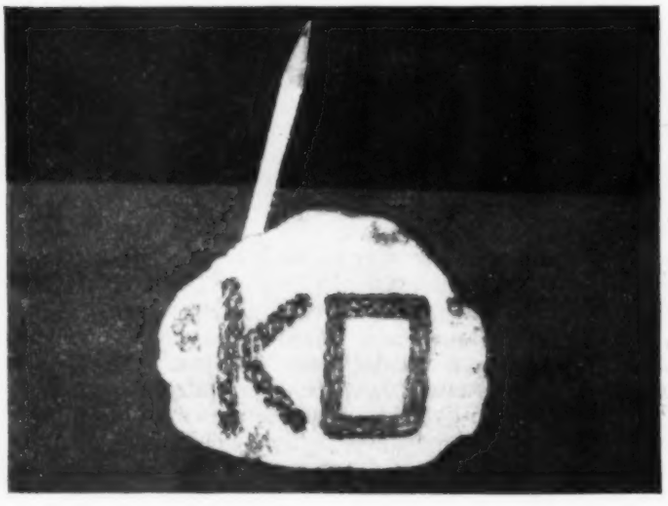
The four objects illustrated on this page had very humble beginnings. These are described in detail. The foundation for the tray in the upper left-hand corner was the tin end from a roll of roofing. It was covered with papier-mâché and trimmed with tiny flowers. To make the flowers, roll balls of the material in contrasting colors and press them into the base coat with the point of a pencil.

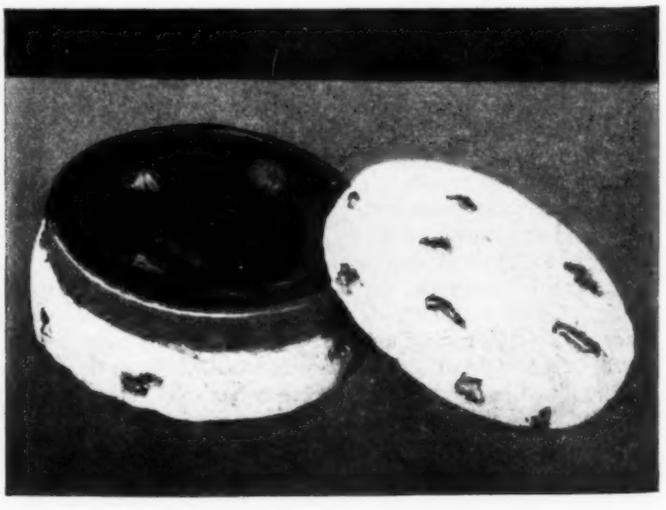
A kitchen-size match box can be converted into an attractive as well as useful article by covering the top and sides (except the strip of sandpaper) with papier-mâché. The one shown here is lavender adorned with a big yellow rose and green leaves. Use a pair of scissors to mark the veins in the leaves, and a pencil point to outline the petals of the rose.

As for the paperweight in the lower left corner, it is merely a hard cinder from the ash barrel covered completely with papier-mâché. A heavy layer was applied toward the back. Into this heavy layer the point of a pencil was pressed to make a deep hole. After the material dried, a pencil was inserted. The initials of the person for whom this paperweight was intended add both a decorative and a personal touch.

The candy box in the lower right corner was made from an oatmeal box cut down to a depth of 2½". The outside layer of paper around both the box and the lid were removed, and the box covered with papier-mâché. The inside of the box was painted and lined with wax paper.

Another suggestion (not illustrated) is a bank or a button jar. Apply a layer of papier-mâché to the outer surface of a small glass jar. Then press bright beads around the rim. The lid may have a slot cut in it through which the coins may be inserted if it is to be used as a bank. Paint the lid with gilt paint and scatter metallics, holding them fast with airplane glue.





CRAYON-ETCHED GREETING CARDS

FOR UPPER GRADES

AGNES CHOATE WONSON

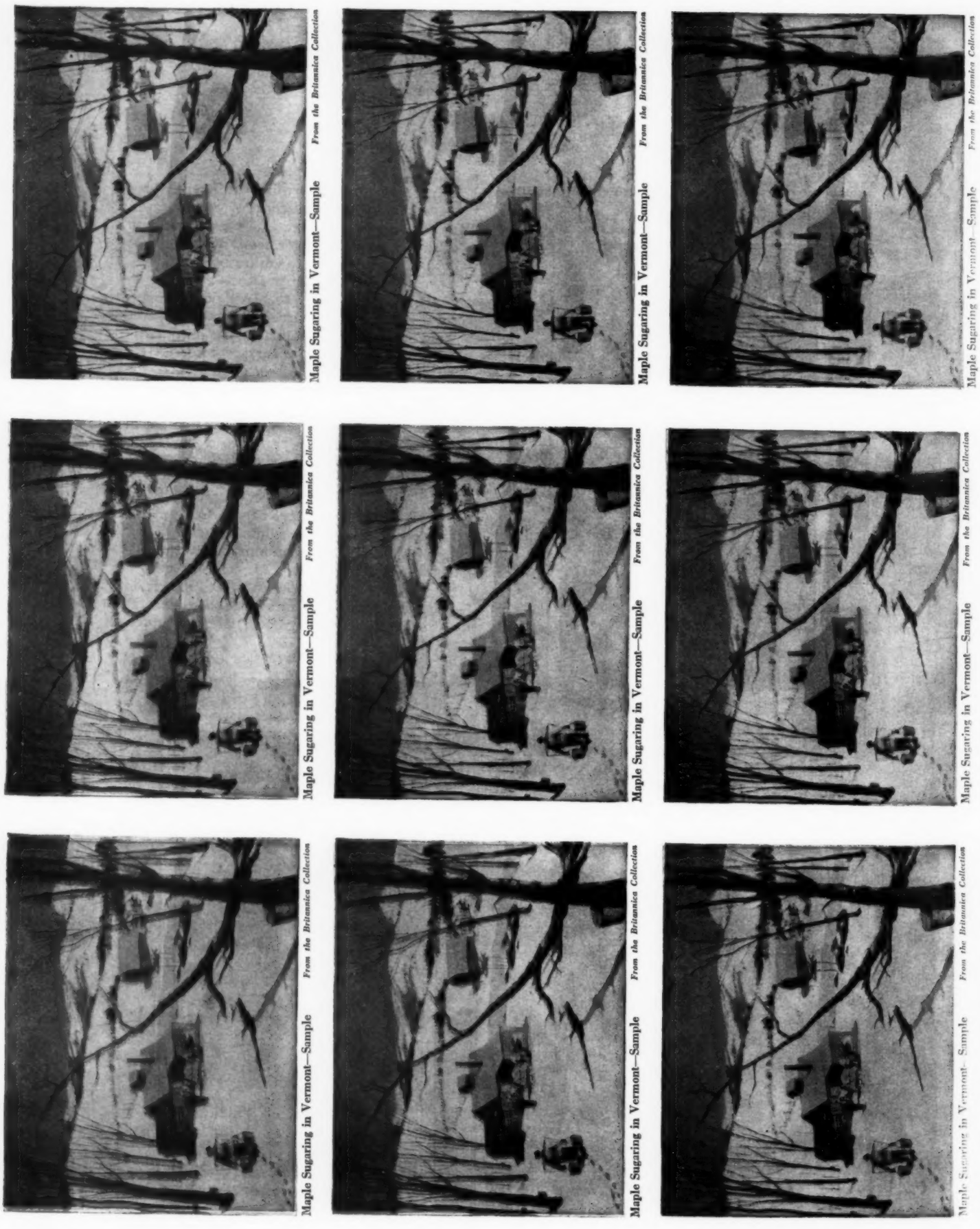
Teacher of Art, Public Schools, Essex, Massachusetts

CRAYON etching—something "different"—has a technique well suited to greeting cards. These cards for St. Patrick's Day were made with green under black, as illustrated. Be sure to use crayons of good quality to ensure best results.

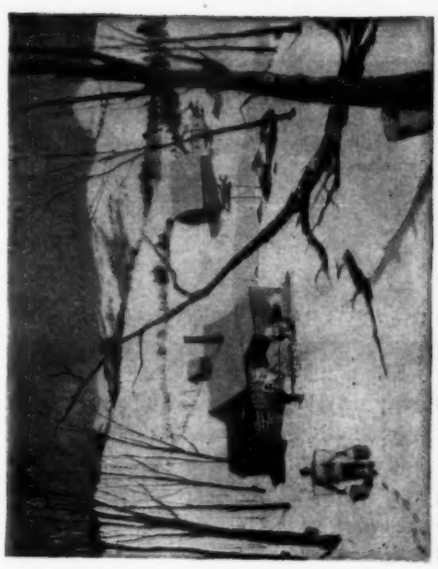
On manila drawing paper 3″ x 4½″ draw an oblong 2½″ x 4″. Fill the area heavily with green crayon, stroking horizontally; then cover the green thoroughly with black, also using horizontal strokes. Cover the surface completely.

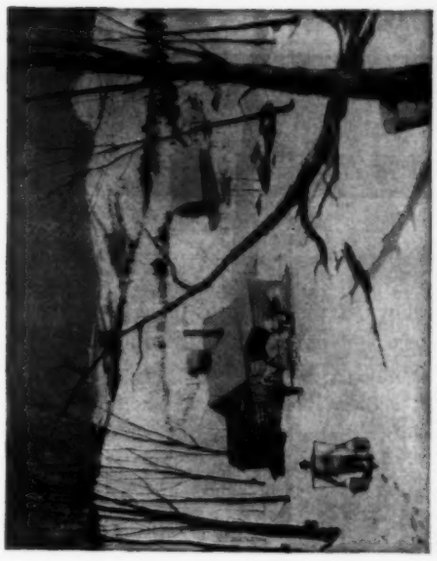
Draw and cut a shamrock or other symbol for St. Patrick's Day. Using this as a pattern, lay it on the crayoned surface in the position desired, and trace around it with a pin. Next take a pen point and insert it *point first* into a penholder. With this tool, scoop out the black crayon so that the design stands forth in green. To represent a green fringed border, scrape off the black crayon ⅛″ around the edges. Cut out the rectangle and mount on white drawing paper with ⅛″ margin. Then mount on green construction paper 3½″ x 5⅛″. Letter a greeting.

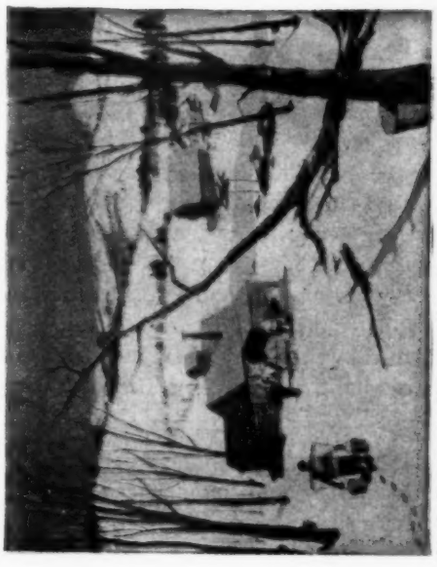
The border of shamrocks and pipes shown on this page is a suggestion for a blackboard decoration, for covers of spelling books, or for a poster.

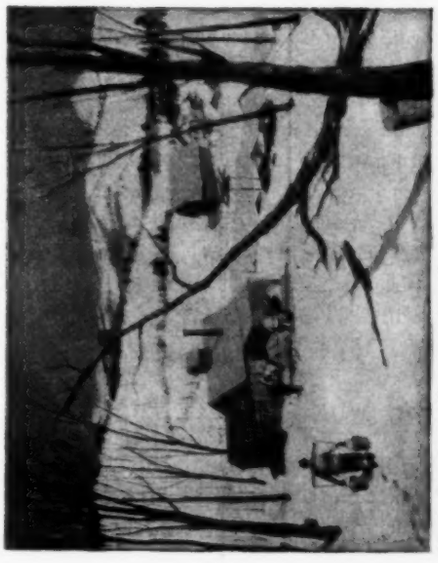


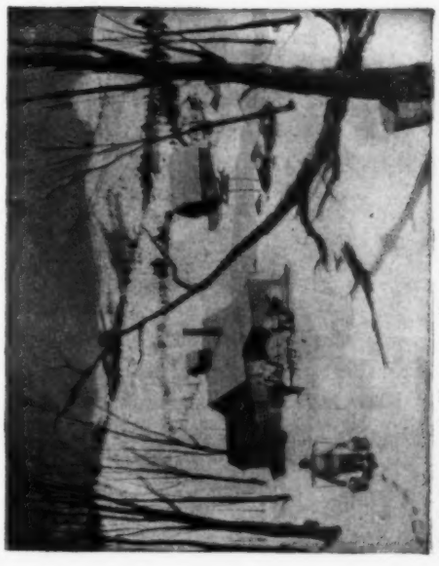
Maple Sugaring in Vermont

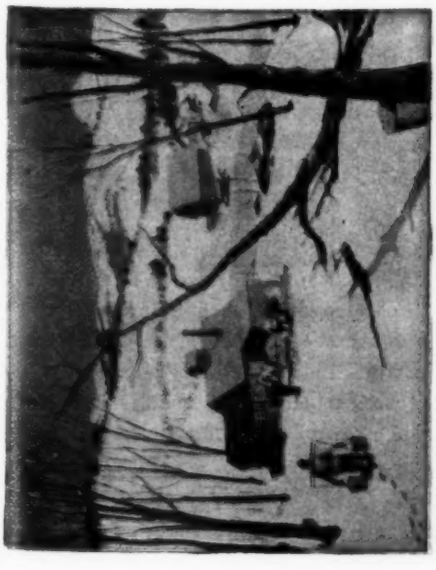


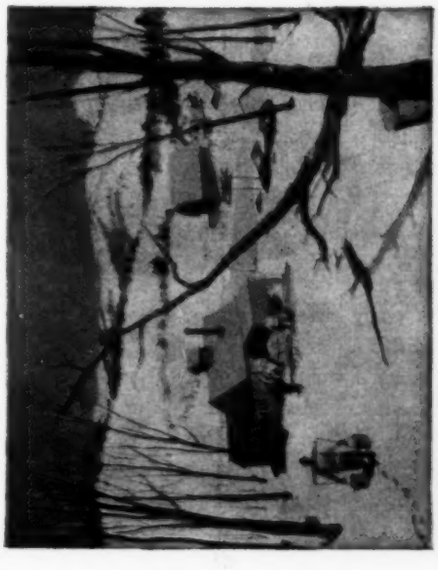












MINIATURE COLOR REPRODUCTIONS

Use these miniatures and the cover picture with the lesson on page 30. See page 84 for another suggestion.

★ HELP EUROPEAN CHILDREN

American Youth for European Youth is the name of a brand-new organization of girls and boys from forty-one states. Its purpose is to aid Europe's children. How is this done? One school has adopted forty-three French children for a year. Another group supplies a hot meal daily for all the children in an Austrian school. Some groups choose to assemble toilet kits. And so it goes. The money is raised by the children themselves. If your pupils wish to join in this work, write to Ernst Papanek, Executive Director, American Youth for European Youth, 31 East 35th Street, New York.

★ CONFORMITY-PLUS

"In our kind of country each of us must conform to the general will, to tradition, to law and order in much of our life," says Dean William F. Russell of Teachers College, Columbia University. He continues, "Equally, each of us must exercise leadership to the degree that our talents and our position in life call for. Properly to learn to conform requires training; properly to learn to be flexible also requires training. If education is to produce a people so disciplined, well-behaved, and temperate as to survive, and at the same time so supple as to adjust to the mighty changes of a technological world, conformity and flexibility must be taught side by side at every level in the school system." Is there a balance of the two in *your* school program?

★ MANIPULATIVE MATERIALS

Every primary child should have such manipulative materials as blocks and toys, wood and tools. They lead to big-muscle activity, and develop touch, or kinesthetic, learning. Perhaps even more important is the feeling of mastery that a child acquires as he handles inanimate objects, making them do as he wishes. With this mastery comes a corresponding responsibility. Blocks fall down if they are not piled properly. A crooked stitch or nail will never come right by itself. Few experiences are better than these to teach a child responsibility, self-control, and the inevitability of cause and effect.

★ FIVE-MINUTE VACATIONS

"The world is too much with us." So said Wordsworth. Most of us live by the clock. And we use our individual resources of time and energy so steadily that sometimes we feel utterly spent. As an antidote, take a five-minute vacation. Go outdoors and look up at the clouds. Read a bit of inspirational prose or verse. Or perhaps just close your eyes and think pleasant thoughts. "Vacation" over, you will return to your task refreshed.

★ WHY THEY ACT THAT WAY

Are you wondering why Phyllis is always on the defensive? Why Edward is such a troublemaker? Psychologists inform us that there are only four fundamental social desires—new experiences, self-expression, security, and social recognition. Children usually react as they do to their environment because they are striving to satisfy one of these four innate desires. Diagnosing the trouble is the first step toward curing it.

★ PAINTING MADE EASY

Any rural, town, or city school could have an art corner planned like the children's workroom at the New York Museum of Modern Art. The children sit on inverted tubs, brightly colored. Each child works at a little red table that has a drawer where paints and water dishes can be placed securely. A rectangular, shallow, boxlike container is attached to the table in an upright position. Each completed picture is thumbtacked to the outside of this container until dry, and then it is slipped inside. The setup is colorful, practical, and space-saving.

★ THE REAL THING

The pupils of a certain school had been studying South American and Indian Life, and had invited other classes to attend an exhibition of their resulting handwork. They demonstrated various crafts, such as weaving, wood carving, the processing of wool and flax. One visiting child was heard to remark, "These kids *do* what we read about!"

About Ourselves

Our new department, "Day by Day," is now in its third month, and already we are enlarging it. Probably no one of you will follow all of the suggestions. They are intended to be used selectively. We hope that this department will have a warm welcome from many teachers and a special thank-you from rural schools.

• • •

The series of units on American history which began in January was carefully planned to cover the social history of our country. Next month comes the final unit, on Westward Expansion.

• • •

Another series of articles is Anna Dunser's on design. Miss Dunser secures fine results, and no wonder! A lesson in April will conclude the series.

• • •

Some of our readers will recall the feature illustrated units on science and the social studies which used to appear in our magazine, though of recent years a war casualty. The last was published in June 1943. We are glad that the increased paper supply enables us to give you more of these fine units. There is one in this issue.

• • •

Now that we can travel again, another of the famous INSTRUCTOR Travel Contests will be held. Don't you want to enter it? See page 68.

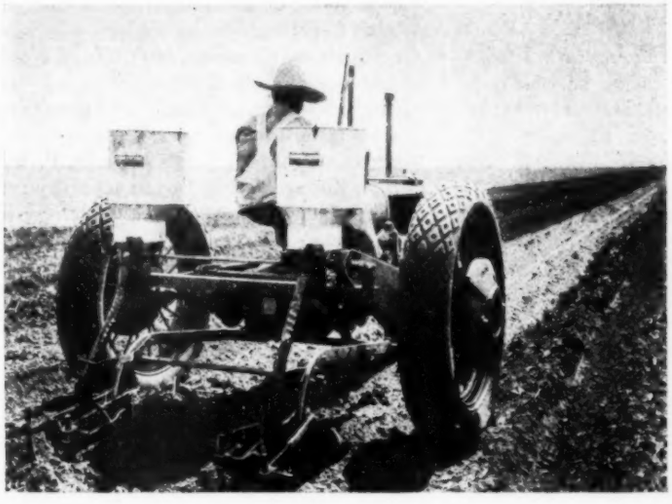
Arlen Mibbard Ames

Illustrated Unit of Work

SCIENCE IN AGRICULTURE

GLENN O. BLOUGH, *Instructor in Science, Laboratory School, University of Chicago*

The photographs in this unit, except as otherwise indicated, are reproduced by courtesy of the U.S. Department of Agriculture.



Reading from left to right, the pictures above are: a farmer plowing, milking by hand, feeding pigs, planting seed for cotton, preparing spinach for market, picking cotton, cutting and threshing grain, and picking fruit.

Overview and Suggested Procedures for Teaching This Unit

You have heard that food wins a war and dictates the peace. Whether this statement is entirely true or not, no one will contradict the claim that food is of primary importance to a nation at any time—in peace or in war.

Farming methods and achievements have changed greatly during the years since the United States was first colonized. Great strides have been made in domesticating and improving many species of plants and animals. Methods of caring for these living things have been devised which have revolutionized farmers' methods everywhere. Inventions, too, have greatly influenced, and vastly improved, agricultural methods.

No resident of the United States, young or old, is outside of the influence of our farms. Though many persons are ignorant of the problems of agriculture, everyone is vitally affected by the degree and manner of solution of such problems. The elementary-school pupil is not too young to begin to acquaint himself with some of these problems.

The study of this unit should include many firsthand experiences to make the science concepts more understandable. A trip to a farm, a dairy, a livestock show, a fair, a greenhouse, a truck garden, or any other place where agricultural pursuits may be observed will be most helpful. Parents should be able to contribute greatly to the study of the unit. They can furnish concrete illustrations of modern agricultural practice by relating their experiences to the pupils either in the classroom or on field trips. Obviously that unit is most successful which makes the greatest possible use of community resources.

As developed here, the unit suggests general content and procedure. There are many aspects which may be developed, depending on local conditions such as the children's interest, the materials available, and the teacher's background.

Upper-grade girls and boys should study all the material given for primary and middle grades. Middle-graders can use the primary material for background. Thus all will gain a more thorough comprehension of important meanings.

As in all science units, the teacher should direct the attention of the pupils toward the understanding of important meanings such as those listed on this page. In evaluating results, the teacher should ascertain the pupils' comprehension of these meanings and find out how nearly they have attained the objectives. The teacher will do well to keep the objectives in mind, since, if they are carefully considered, they will greatly influence the teaching method.

OBJECTIVES

1. To satisfy the child's curiosity and to broaden and activate his interest in his environment.
2. To develop the principles and generalizations contained in the unit.
3. To make children aware of some of the applications of scientific principles.
4. To introduce pupils to the use of scientific methods in solving problems.
5. To show pupils the importance of scientific discoveries.

PROCEDURE

FOR PRIMARY GRADES

A. *Problems for supplementary lessons.*

1. What are the chief farm crops in my neighborhood and state?
2. How should a garden be cared for?
3. What kinds of food should we eat?

B. *Important meanings to be developed.*

1. Plants and animals are essential to us for food.
2. Farms produce the foods we eat.
3. There are many kinds of farms.
4. Farmers do many kinds of work.

FOR MIDDLE GRADES

A. *Problems for supplementary lessons.*

1. How is crop rotation carried on?
2. How do plants take in moisture and food materials from the soil?
3. How are food deficiencies in soils recognized and remedied?
4. How is moisture conserved in soil?

B. *Important meanings to be developed.*

1. The study and experimentation of scientists have added much to our knowledge of how to care for animals.
2. Scientists work carefully to ensure reliable results.
3. Proper living and growing conditions are essential to growth of living things.

FOR UPPER GRADES

A. *Problems for supplementary lessons.*

1. What important improvements in plants can scientific methods bring?
2. What important improvements in animals can scientific methods bring?
3. What scientists have made experiments that have resulted in these improvements?

B. *Important meanings to be developed.*

1. Great improvements have resulted from scientific breeding of animals and plants.
2. Much study and experimentation have been necessary to make these improvements.
3. The improvements in animals and plants are of great economic importance.

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Why Agriculture Is Important

For Primary Grades

WHAT WE EAT

1. Why should we eat different kinds of food each day?
2. What are some of the kinds of foods that we eat?

Try to remember what you had to eat yesterday for breakfast, lunch, and dinner. Perhaps someone ate these foods.

Breakfast: fruit, milk, cereal, toast, and jelly.

Lunch: tomato soup, egg sandwiches, milk, and an apple.

Dinner: roast beef, potatoes, carrots, lettuce, bread and butter, and pudding.

Thinking of this breakfast, lunch, and dinner will help you to see how many different kinds of things people eat every day. We eat many different foods from plants. Fruits and vegetables, which we eat either raw or cooked, are some of them. Seeds of plants made into bread and cereals are others. Some people think spices, which are obtained from plants, make certain foods taste better.

Animals supply many different kinds of foods. They give us meat, eggs, milk, cheese, butter, honey, and other things.

People need to eat many kinds of foods. Some help us to grow. Some give us energy to do our work. Some help to keep us well. Foods are important to us in many different ways. Some of the foods that animals give us are important for one reason. Some of the foods that plants give us are important for another. Nearly all of our food comes from the living things that are produced on our farms.

Things to do—

1. Find out why it is important for girls and boys to drink milk.
2. Make a list of animals that are used for food.
3. List some plants that you like to eat.

WHERE OUR FOOD COMES FROM

1. What two main kinds of things give us food?
2. Why is soil important to us?

Where did the food come from that you ate yesterday? There is more than one way to answer this question.

You might say that all of the food came from plants and animals. And that is a correct answer. You might also say that the foods came from many parts of our own country and even from other countries. That, too, would be a correct answer. In certain parts of our country many cattle, sheep, and hogs are raised for food. Apples and other fruits are raised elsewhere. Potatoes and corn are grown in another section. You might also say, "Our food really comes from the soil. Farmers grow it." And that, too, is a good answer.

The plants that we call our *farm crops* all grow in the soil. Cattle, sheep, hogs, and other animals that give us food must eat plants or they cannot live and grow. In this way these animals, too, really come from the soil.

The farms of the United States supply all of us with foods to eat. Study the pictures and read the text pages and you will see how farms give us food.

Things to do—

1. Examine some soil to see whether you can tell of what it is made.
2. Collect pictures that show farmers at work in their fields. Find pictures that show some of the different things the farmers do.

HOW FARMERS WORK

1. What kinds of work are done on farms?
2. Why is this work necessary?

Look at the pictures which show some of the kinds of farms that give us food. If you live on a farm or go to a farm in summer, you can explain to the other girls and boys some of the things that farmers do to grow our food for us.

One very important job that farmers do is to get the soil ready to grow the crops we use for food. It must be plowed and harrowed before it can be planted. The farmer must be sure that there is plenty of food material in the soil for the plants to use. Sometimes, to help them grow, he puts fertilizer on the soil.

After the soil is ready for planting, the farmer puts the seeds into the ground. When the plants begin to grow, weeds grow too. They are harmful and must be killed.

When the farm crop is ripe, the farmer harvests it. Then he gets the crop ready for the market. Can you find the picture of the huge machine that cuts and threshes wheat at the same time? This machine empties the wheat into bags so that it can be marketed. After the farmer sells the wheat, it is changed into flour for making bread and other things to eat.

A farmer's work is not finished when he has worked all day in the fields to grow crops. He probably keeps cows which he must feed, and care for, and milk. He must take care of the horses that work for him. Often he keeps pigs, or sheep, or chickens, which also must be fed and cared for.

A farmer's life is a very busy one. In spring and summer and autumn, he begins to work as soon as the sun rises and works until dark. In winter in the parts of our country where it is very cold, farmers do many things indoors that will make their work easier during the growing season.

To do their work farmers need many different kinds of tools. They must learn things about the plants and animals that they raise on their farms. Look at the pictures and you will see some tools and other things that farmers use to help them in their work.

Things to do—

1. Find pictures of farm machinery used to do different kinds of farm work.
2. Visit a farm and learn more about the different things that happen there.

DIFFERENT KINDS OF FARMS

1. How do farms differ from one another?
2. What kinds of farms are located in your state?

Not all farms are like the one that we have talked about. Many farmers raise only one or a few kinds of food on their farms. Are there any such farms near your home?

Dairy farms are very common. Thousands of cows are needed to supply the great demand for milk, cream, butter, and other dairy products. The farms are mostly pasture lands where the cows graze. Some of the fields are planted with corn or other farm crops that are used in winter as food for the cows.

Dairy farms have big barns for the cattle and places to take care of the milk. They have places to store food for cows in winter. That is what a silo is for.

In many parts of our country there are huge farms called *ranches,* where thousands of cattle are raised for meat. Sheep are raised on big ranches too.

Some farms raise only vegetables. Such farms are often called *truck farms.* Cabbage, celery, lettuce, tomatoes, and other kinds of vegetables are grown in the fields, or under glass, and sent to towns and cities to be sold. Truck farms are often much smaller than other kinds of farms.

Certain farms grow only fruit. A whole farm may be devoted to growing apples, peaches, oranges, or other fruit.

Not all farms grow food. There are flower farms, too. Have you ever seen a whole field of tulips or gladioli? These farms raise bulbs and seeds to sell that will grow into beautiful flowers.

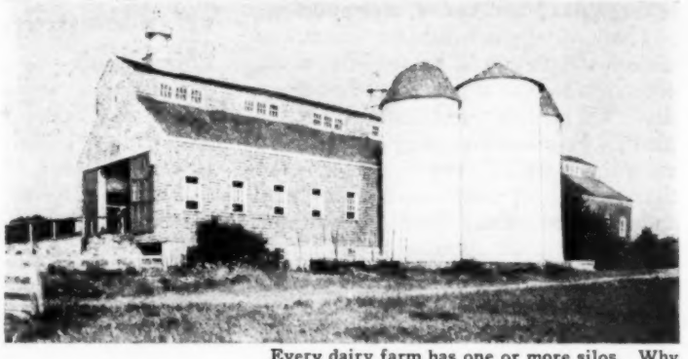
Things to do—

1. Find pictures of different kinds of farms.
2. Visit a dairy farm, if you can.

U.S.D.A. Photo by Ackerman

Why were the fruit trees in the orchard (above) planted in straight rows far apart? Why are truck farms (right) always cultivated intensively?

SEVERAL KINDS OF FARMS

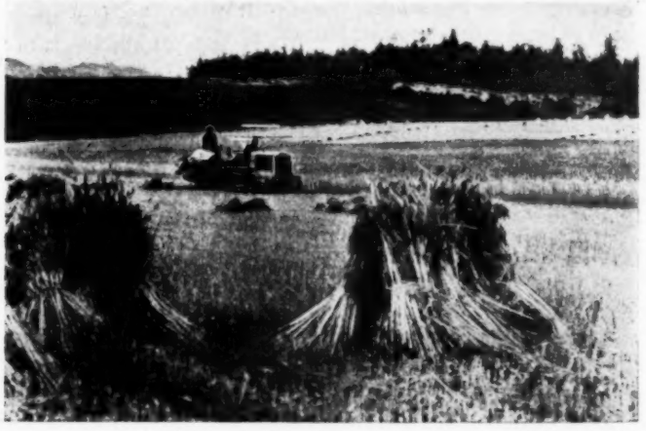


Every dairy farm has one or more silos. Why does this big dairy barn have so many windows?

On sheep ranches, the animals are often penned up in winter, to be given food and shelter.

Cattle for beef and hides live on huge ranches. Where do they get water? *Schlechten, from Ewing Galloway*

Courtesy, U.S. Department of the Interior



In the west, thousands of acres are devoted to raising one kind of grain only, year after year, as wheat (above). Such farms must be scientifically fertilized. The owners of this southern poultry farm (below) have a poultry house that is well lighted and really sanitary.

HOW FARMERS USE SCIENCE

Wet farms need draining. Surveyors determined the angles and the directions for the tile which this farmer is laying.

Pollinating hybrid seed corn should be done in accordance with careful scientific procedure.

U.S.D.A. Photo by Ackerman

A government specialist demonstrates the best way to graft an apple tree.

Dry lands must be irrigated. Experimentation has shown how often, and how much, water is needed to irrigate here.

These two fields of grain differ greatly although growing side by side. Can you tell which of the fields was scientifically fertilized? *Ewing Galloway*

Beef calves which are properly cared for develop heavy, rugged bodies. Do you think this 4-H Club girl tended her calf scientifically? How did she do it? *Ewing Galloway*

Caring for Living Things

For Middle Grades

HOW SCIENTISTS LEARN ABOUT LIVING THINGS

1. What do plants and animals need?
2. How do scientists experiment with plants and animals?

People have long known that plants and animals need certain things to keep them alive and growing. Plants require sunshine, food materials, water, air, and a temperature that is right for growing.

But all plants do not need the same amounts of these things. Some kinds of plants need much water; some, only a little. Some grow best if the temperature is very warm; others if it is cool. Some plants need one kind of food; some, another. Animals too need certain types of food and shelter, air and water. People have not always known this.

Scientists have been responsible for finding out what we now know about the needs of plants and animals. Many scientists have worked for years to discover the conditions under which plants and animals grow best. They observe plants as they grow; they examine plants with a microscope to find out their structure; they check to find out the materials of which plants are made; and they experiment to learn better ways of growing them.

Scientists always work carefully. They try their experiments over and over to be sure of what has been shown. They are accurate in what they decide from their experiments. If they are not sure of their discoveries, they always say so.

You may like to try an experiment of your own. Suppose you wish to find out which of two kinds of soil (loam or sand) are best for Lima beans. The following would be a good procedure.

Fill one shallow wooden box with sand and a similar one with loam. Select fifty good Lima beans. Plant twenty-five of the seeds in one box, and the remaining seeds in the other. Set the boxes together where the temperature and light conditions will be the same for both. Give each the same amount of water. It is most important that you treat the two boxes exactly the same, except for the soil. Remember that you cannot decide the answer to your problem in a few weeks. The beans in one box might *begin* to grow better than those in the other, but they might not *continue* to do so. Before you can really decide anything from the experiment, you should do it more than once, and be sure that you have looked at the matter from every side before you reach conclusions.

By carrying on many, many experiments with plants, scientists have found out thousands of facts about how they grow. Books, magazines, and pamphlets tell about these discoveries. When people wish to know what kinds of fertilizer to provide, or when they wonder how to destroy certain insects, or if they need to know whether to try a certain crop in a warm climate, they read these reports.

Things to do—

1. Plan experiments to answer problems that arise as you study this unit. Make some rules to follow so that you can be sure of the result.
2. Find descriptions of experiments scientists have done. Try to discover why they were done as described.

HOW SCIENCE HELPS US CARE FOR PLANTS

1. How is food material supplied for growing plants?
2. How is water supplied for plants when they need it?

Scientists' discoveries about the effect of food material, temperature, water, and sunlight on plants are important. They show us what to do for plants so that they will grow and give us food.

When we know what kinds of food material a certain crop needs we must then discover how this food material can be supplied. Plants get food for growth from the soil. Farm crops keep taking food from the soil until the time comes when more must be added.

There are many ways to supply the soil with food materials, which are called *fertilizers*. Find the picture of two crops growing in one field. One part of the field was fertilized with the right kind of food material; the other part had no fertilizer added. Why is it important to fertilize soil?

There are many different kinds of fertilizer. Animal manure is one of the most valuable and is very commonly used.

Another kind of fertilizer is provided when certain crops are grown and then plowed under. Clover and alfalfa are often used in this way. They put plant food back into the soil. Fertilizers may also be purchased and used to add plant foods. Some of these are good for one kind of crop; some are good for another.

Before scientists discovered that plants used the food from the soil, farmers knew that if the same crop was planted in a field year after year the crop would gradually get poorer. By experimenting, scientists have learned that if the kinds of crops are changed from year to year, results will be better. They have worked out a system of rotating crops so that crops like clover and alfalfa are planted to return to the soil food materials used up by crops like corn and oats.

The problem of supplying the correct amount of water is especially important to farmers. Scientists have learned that certain kinds of crops require certain amounts of water, and that the water is more important at certain times during the plant's growing season than at others. So they have helped to discover ways of supplying this water and bringing it where it is needed at the right time.

In some parts of our country it is not necessary to pay special attention to obtaining water for field crops. There is enough rain. In other parts of the country water must be brought from lakes and rivers or reservoirs to the crops through ditches. This is called *irrigation*.

Experiments have also shown that water can be kept in the soil by cultivating it at the right time after a rain. Other experiments have proved that water is continually evaporating from the fields. Scientists have found out that if the top of the soil is cultivated, there will be less evaporation. Water in the lower layers of the soil is important because the roots of plants are there.

In some parts of the United States the farmers practice *dry farming*. Each year some fields are not planted. The rain soaks into the ground. Then the ground is cultivated so that water will stay in the soil. Water is thus retained for use by the plants during the next year.

Things to do—

1. Obtain samples of various kinds of plant fertilizers. Plan experiments.
2. Look up irrigation and dry farming.

HOW SCIENCE HELPS US CARE FOR ANIMALS

1. How is scientific knowledge useful in housing animals?
2. How has it helped in feeding them?

Find the picture of the girl with her prize steer. She fed it scientifically.

By experimentation, scientists have learned much about the care and feeding of farm animals. They have found out how much food to give, when to feed, how to prepare the food, and how to preserve it for times when it is scarce.

Scientists have also learned how to build proper houses for various kinds of animals. Dairy barns are built so as to give plenty of room for the cattle, to supply an abundance of light and fresh air, and to make cleaning easy.

Find a picture of a modern henhouse. How does it get plenty of light and air?

Things to do—

1. Look at catalogues of farm equipment. Examine the pictures of things sold for the care of animals (incubators, feeding troughs, brooders, and so on).
2. Find out how silos are filled.

Improving Living Things

For Upper Grades

HOW CAN SCIENTISTS IMPROVE LIVING THINGS?

1. How have improvements in living things come about?
2. Is there still more that scientists can learn about this important subject?

Suppose you found two kinds of flowers—one with a very beautiful color but having a very disagreeable odor, the other with a drab color but having a very pleasing scent. Suppose you wanted to change these flowers so that the one with the beautiful color would no longer have the bad odor but would have instead a pleasing fragrance. What procedure do you think you would follow?

Perhaps the idea seems quite impossible to you. But it is not. Plant scientists have done this and even more startling things. Luther Burbank caused many very wonderful improvements in plants to be made. So have other scientists. Scientists have also brought about great improvements in animals.

The improvements in plants and animals have come to pass through many years of careful study and observation. There is still much that is not known about this subject, but many facts have been learned that are helpful. By using the knowledge gained through experimentation, scientists have greatly improved our plants and animals so that they better fit our needs. From wild grapes, plums, apples, berries, and other fruits that are often small, sour, or bitter have come the many varieties of grapes, plums, apples, and berries which we enjoy today. They are no longer small, sour, and bitter, but are larger in size, sweet, and good to taste.

Ways to improve these living things have been found through study and experimentation. If you had the knowledge of a plant scientist, you might be able to improve the bright-colored flower by giving it the pleasant odor of the drab flower. You would do this by selecting the flowers and taking some of the dusty material called *pollen* from one flower and putting it on the other flower. Then you would save the seeds of these flowers and plant them. When the seeds grew into plants you would examine the new flowers. You might discover that some of them had the bright color but the odor in them was not quite so undesirable as the original flowers had been. You would keep these plants and experiment with the pollen from their flowers. Year after year you would continue your experimenting and at last you might find that you had improved the flower the way you had hoped to do.

There is much to know about how scientists work to improve plants and animals. Some of the references will tell you more about how this is done.

Things to do—

1. Read about the life and work of Luther Burbank. Try to find pictures of some of the plants which he originated.
2. Find out how grafting is done.

HOW DO SCIENTISTS IMPROVE PLANTS?

1. What are some significant improvements that have been made in plants in recent years?
2. Why are these improvements important to us?

If you look at a seed catalogue or go to a state or county fair where flowers, fruits, and vegetables are shown, you will soon see that there are hundreds of kinds of plants that are beautiful, useful, and very satisfactory to us in many ways. This has not always been so. As you have just read, these improved plants came from wild ones that were much less useful and satisfactory before scientific experiments were made.

Plants have been improved in many ways. Flowers have been changed so that you would never guess where they came from. Their colors have been changed. The ability to grow in different climates has been developed. Their resistance to insects has been improved. The length, size, and shape of their petals have been changed.

Some flowers that bloomed only at certain times of the year have been made to bloom over a much longer period of time. Some that grew only a few blossoms each year have been changed so that they grow many blossoms.

There is not room to tell all of the ways in which flowers have been changed. Much of this improvement has been done by transferring pollen from one flower to another, planting the seeds, observing the change, and then repeating such experiments again and again.

Fruits too have been improved in many ways. Not only have small sour fruits been turned into large, juicy, sweet ones, but new fruits have been made which do not have seeds. Examples of these are seedless oranges and grapes.

Vegetables and farm crops have also been greatly improved, and these improvements are extremely important to us. Corn has been so changed that the amount of food value in the kernel itself has been increased. Its yield of bushels to the acre has been enlarged and its resistance to disease has been strengthened. Great improvements have been made in many kinds of grains. Vegetables such as potatoes, beans, and peas have become much more satisfactory for our use.

In every state there are experimental farms where scientists are continually working to produce better plants. If you watch the newspapers and magazines, you will find accounts of some of the discoveries that have been made through scientific experimentation. Examples of such discoveries cover a wide range—from a variety of cabbage that is odorless and a kind of wheat that will withstand rust, to new cotton plants that resist wilt, and cows that can produce larger amounts of milk.

Things to do—

1. Examine a new seed catalogue and find pictures that show recent improvements in flowers, fruits, and vegetables.
2. Try to visit an experimental farm and find out about the work done there.

HOW DO SCIENTISTS IMPROVE ANIMALS?

1. Why are improvements in animals important to us?
2. What improvements have resulted through animal breeding?

Everyone knows that we need plants to supply us with food, clothing, and other necessities. We could not get along without animals either. They give us food, they give us clothing, they work for us, and they are useful in many other ways. Scientists have worked to improve them so that they will be even more useful to us.

Animals are improved in much the same way that plants are. They are carefully watched and tested, and then certain animals are selected for breeding. It takes a much longer time to bring about the improvement in animals than it does in plants. Animals reproduce and grow to maturity more slowly than plants do.

The selective breeding of animals has brought many important results. The wool of sheep has been greatly improved and is now much more satisfactory for wool clothing. The production of eggs from chickens, and milk from cows, has been increased through breeding and careful selection of specimens. Animals that can survive under extremes of climate have been developed.

Things to do—

1. Try to find pictures of animals that have taken prizes at fairs and elsewhere. Study their characteristics and try to decide why these animals were awarded prizes.
2. If you have a pet with a pedigree, examine the records of its ancestry and trace some of the more conspicuous characteristics.

Activities Based on the Unit

Look at this ripe cotton crop. Is it a success or a failure? What factors were influential in bringing about such a yield? *Ewing Galloway*

ACTIVITIES used with any unit of work should contribute in a specific way to the growth of the pupils who undertake them. Those chosen for this unit should be selected on the basis of their contribution to the objectives outlined on the overview page. The pupils, who should help in the selection and planning of the activities, should ask themselves whether those chosen will (1) broaden their interests, (2) provide additional information, (3) show them how to apply scientific principles, (4) teach the use of the scientific method, and (5) help them realize the importance of scientific discoveries.

PRIMARY GRADES

ILLUSTRATING PROBLEMS

FOUR major problems for primary grades are suggested on the page devoted to materials for those grades. Illustrating the important meanings to be developed (see the overview) in these problems will help to make the ideas more significant.

1. Gather pictures that show different kinds of foods we eat.
2. Arrange pictures to show a breakfast that is good for you.
3. Find pictures that show important farm crops in your state.
4. Find pictures that show different kinds of farms and different kinds of work farmers do.

The illustrations may all be assembled and placed in booklets, each one labeled according to the problem illustrated.

MIDDLE GRADES

PLANNING EXPERIMENTS

SINCE the emphasis, in the problems for this level, is on the methods by which scientists have gained information, the pupils may profit considerably by performing certain experiments which they themselves have devised to solve some specific problems. For example: "How can I tell whether a certain kind of commercial fertilizer sold for house plants is good to use?" Let the class plan the experiment and write down the plan in steps, telling what should be done first, next, and so on. Then the plan should be carried out, and conclusions drawn. It is essential that the pupils read the first lesson on the page devoted to the middle grades, and follow the plan. If the experience is to be profitable, the pupils should not be permitted to draw sweeping conclusions from this experiment. Several tests should be made. Even then, the result should be substantiated by the experience of other experimenters.

If pupils are to become acquainted with the real method of science, it will be by contact with experimentation of the type described here. Each experiment performed should be thorough and should be as carefully controlled as is possible in a schoolroom situation.

UPPER GRADES

INVESTIGATING PROBLEMS

INDIVIDUAL pupils often discover some problem in which they have a special interest and which they wish to pursue further than the class will go. Most units give plenty of opportunity for such problems. This unit is no exception.

The teacher's part is chiefly that of a consultant. She suggests means of solving the problem; helps the pupil state it concisely; suggests sources of information, types of experiments, and other means of finding information; and guides the pupil in summarizing the information which he has gathered. If pupils become discouraged when their efforts are not fruitful or when the problem becomes too hard, the teacher should help.

The following problems are some which have interested upper-graders.

1. How did Luther Burbank experiment with plants to get new kinds?
2. How is grafting done?
3. What are some of the newer discoveries in plant improvement?
4. How is work carried on in an experimental greenhouse?

In time of war and other emergencies it often becomes necessary to increase farm production and to transport the products more effectively. Sometimes there is need for farmers to raise certain crops which have not previously been grown to any great extent. At such times our dependence on farms becomes increasingly evident to us.

Many pupils in the upper grades worked diligently on farms during the war years. Their aid was very valuable, especially in some localities. Now, as always, it is important for pupils who are growing up to learn about the work done on farms and about the problems farmers must meet. A discussion of the following problems will help to achieve this goal. If some successful farmer from the community can visit your school and talk to the class, the subject will become much more meaningful, especially if some of the problems are given to him in advance so that he understands the nature of the discussion.

1. Why is the production of some farm crops curtailed and that of others increased during a national emergency?
2. Why is the work that is carried out on experimental farms so essential?
3. What substitutions are necessary on farms during a national emergency?
4. How can girls and boys be of greatest help on farms?

As children reach the later elementary grades, they often begin to think of possibilities for their future vocation. It is frequently desirable to introduce pupils to the nature of a specific vocation in connection with the units which they study. This is true in the case of this unit on farming. Specialized farming and scientific general farming offer good opportunity for those who are interested. Children may investigate such problems as the following to learn something about the vocation of farming.

1. What must a good farmer know?
2. What kind of individual is likely to become a successful farmer?
3. What are the living conditions on a typical farm?
4. What are the opportunities open to those interested in farming?
5. How much preparation is prerequisite to becoming a good farmer?
6. What advantages come from following this vocation?

DAY BY DAY

Suggestions for March Classroom Activities

(STARRED ITEMS ARE SUITABLE FOR ANY GRADE)

Date and Topic	*Grade* I	*Grade* II	*Grade* III	*Grades* IV, V	*Grades* VI, VII, VIII
Friday March 1 The Month of March	What is the name of this month? Look at a calendar. How many days are there in March?	Look at a calendar. On what day of the week does March begin? On what day does it end?	Look at a calendar. Tell how many school days there are in March. Does March begin or end on a school day?	Spring begins in March. On what day? Find out why.	Compose a four-line stanza about the month of March.
Monday March 4 Wind Poems for Choral Speaking	Little wind, blow on the hilltop; Little wind, blow down the plain; Little wind, blow up the sunshine; Little wind, blow off the rain. *—Kate Greenaway*	March brings breezes, loud and shrill, To stir the dancing daffodil. *—Sara Coleridge*	The wonderful air is over me, And the wonderful wind is shaking the tree— It walks on the water, and whirls the mills, And talks to itself on the top of the hills. *—William Brighty Rands*	Whichever way the wind doth blow, Some heart is glad to have it so; And blow it east or blow it west, The wind that blows, that wind is best. *—Caroline H. Mason*	The stormy March is come at last, With wind, and cloud, and changing skies; I hear the rushing of the blast, That through the snowy valley flies. *—William Cullen Bryant*
Tuesday March 5 Air Pressure	*Hold a feather above a hot stove, register, or radiator, and then let it go. Why does the feather go up? Open a window a crack and hold your hand over the opening. Do you feel the air?	*Open a paper bag wide, put a small mailing tube in its mouth, and gather top of bag tightly around the tube. Suck out the air inside. Why is the bag flatter?	* Fill a glass completely full of water, and cover with a piece of thick cardboard. Be sure cardboard touches whole rim of glass. Holding the cardboard in place, turn glass upside down, and take hand off cardboard. Why doesn't the water come out?	* Fill a deep pan nearly full of water. Push an empty, inverted glass down into the water. How much pressure do you feel? What happens to the air in the glass? Now tilt the glass a little to one side. Where do the bubbles come from?	* Make a siphon, as follows. Get two jars and fill one with water. Also fill a rubber tube completely full of water and, holding both ends tight, put one end in the full jar and the other in the empty one. Release ends. Why does water go from one jar to the other?
Wednesday March 6 Arithmetic Games	*Counting.* Each child is given a paper with a number written on it. Children in turn bounce a ball that number of times. Others tell or write the correct number.	*Arithmetic Lotto.* Everyone draws an oblong on paper, and divides it into twelve squares. Write in each square one of the numbers from 0 to 20. A caller has these 21 numbers on separate cards. When he calls a number on your card, cross it out. The first person who has 12 crosses, says "Lotto" and is the winner.	*Buzz Three.* All pupils playing make a circle. They count in turn—1, 2, Buzz, 4, 5, Buzz, to 30. Whoever fails to say "Buzz" for a multiple of 3 must sit in the center. See how many can count without making a mistake.	*Floor Game.* All pupils playing sit in a circle except two to four who are to sit on the floor in the center. Your teacher will ask examples in turn. If any child in the center can answer ahead of the child whose turn it is, he changes places with that child, who must now sit in the center.	*A Contest.* Have two sides, with captains and a scorekeeper. Your teacher will assign written examples or problems. Each captain reports number of correct answers for his side each time. Scorekeeper writes score. After three rounds, he adds to find the winning side.
Thursday March 7 Word Enrichment	Copy these words. house tree cow name ball flag boy star After each word write the same word ending in *s*. The *s* makes it mean more than one.	Write eight words, adding *ing* like this. call — calling snow — snowing Choose no words ending in *e*.	Write three words that rhyme with each of these words. day and sing well near blow	Copy these words and write their opposites. heavy out buy tall yes work small ugly	Some words suggest what they mean by the way they sound. They are known as onomatopoetic words. How many such words can you think of? Begin with *bang* and *murmur*.

Turn the page to find Day by Day Activities for the rest of March.

Date and Topic	*Grade* I	*Grade* II	*Grade* III	*Grades* IV, V	*Grades* VI, VII, VIII
Friday March 8 Indoor Fun	Close your eyes. Someone will put a small object in plain sight. All in your group walk around the room. When you see the object, sit down.	* Draw from memory a penny and a nickel. Then look to see how nearly right you were.	(Provide some shell peanuts.) * *Peanut Faces.* Draw little faces on halves of peanut shells. Fit them on your fingers. Number them 1 to 5. Ask a friend to call different numbers. When a number is called, make that peanut face bow by bending the finger.	* Put a quantity of very small pebbles in a jar. (Beans or corn can also be used.) Let each child write on the blackboard his guess as to the number. Check by counting. See who is nearest right.	*Beast, Bird, or Fish.* One child is It. He says "Beast, Bird, or Fish—*Bird*" (or *"Beast"* or *"Fish"*) and then calls a child's name and counts to 10. Before 10 is reached, the child called must give a correct answer, as *Sparrow* for *Bird;* or be It.
Monday March 11 Puppets	Paste animal pictures on cardboard. Insert in clay standards.	Plan a little puppet play. Choose a story with few characters.	Plan a little puppet play, as a scene from a fairy tale.	Plan a shadow puppet play. Nail a white cloth to a frame and arrange a light behind it.	Plan a shadow puppet play. Nail a white cloth to a frame and arrange a light behind it.
Tuesday March 12 Puppets (continued)	Make up and practice an animal play using the stand-up animal pictures.	Make and dress clothespin puppets for your play. Make arms of pipe cleaner. Tie a string to each puppet.	Make hand puppets to use in the play. (The February 1946 issue of THE INSTRUCTOR, page 38, shows a pattern.)	Cut and make puppets, also any properties (as a boat) needed for your play. Attach a holding stick to each.	Make jointed puppets for your play, from tagboard. Attach parts with a knotted cord or brass fasteners
Wednesday March 13 Puppets (continued)	Give your play to another group or class.	Practice and give your play to another group or class.	Practice and give your play to another group or class.	Practice your play and give it to the class. Later it can be presented as an assembly.	Practice manipulating your puppets. Practice your play, and present it to other groups.
Thursday March 14 Vegetables	Draw, color, and cut out some potatoes of different sizes. Use the potatoes in playing store.	Draw and cut out a basket. Now draw, color, and cut out a stalk of celery, a squash, a head of lettuce, and other vegetables of your choice. Paste basket and vegetables on a large paper so that the vegetables seem to fill the basket.	Choose three vegetables. Draw and color them. Cut them out. Group all the vegetables made by the class on a chart with the names below. Find out how many children like vegetables and eat them every day.	We know that different parts of vegetable plants are eaten, such as: root leaf fruit stalk blossom Name several vegetables in each group. Which ones will keep all winter?	Green and yellow vegetables contain large amounts of vitamin A. What value does this vitamin have in the diet? List as many green and yellow vegetables as you can. Suggest various ways of cooking them to make them appetizing.
Friday March 15 Our Presidents	Who was the first president of the United States? Who is president now?	Write the name of the first president and the name of the president today. Where does the president live in Washington?	How long is a president's term? When is election day? What do people do on that day? Do we vote for a president on every election day? (Provide buttons, needle, and coarse thread for tomorrow.)	There have been 32 presidents of the United States. Name as many as you can. Can you name any who served more than one term? (Provide shoe polish and polishing cloths for tomorrow.)	Give an important event (not a war) occurring while each of these men was president: Andrew Jackson Abraham Lincoln Theodore Roosevelt Woodrow Wilson
Monday March 18 Care of Clothing	What is the difference between the wraps you wear in cold weather and those you wear in warmer weather? Draw a picture of yourself hanging up your wraps. (Ask pupils to listen to radio weather reports tonight.)	Why do you wear rubbers and overshoes? Explain why rubber is a good protection for your feet. (Ask the children to listen to radio weather reports tonight.)	Practice sewing buttons on a piece of cloth. Thread your own needle if you can. Why should a child know how to sew on a button? (Ask children to listen to a news broadcast to report on tomorrow.)	* Practice polishing your own shoes. Do you think shoes look better when they are polished? How does polishing protect them? (Ask pupils to listen to radio weather reports before school tomorrow.)	* Discuss the importance of wearing clean clothing. What do people mean when they say that wearing clean clothing helps our self-respect? (Ask pupils to listen to a news broadcast to report on tomorrow.)
Tuesday March 19 Current Events— Radio	Choose the right word. Today is (warm, cold). I (see, do not see) the sun. It (will, will not) be colder tomorrow. (Have several pussy-willow branches brought tomorrow.)	Tell what the weather forecast was last night. Did the forecast come true? Can you tell how the Weather Bureau gets its information? (Have pussy-willow branches brought tomorrow.)	Tell the interesting items of news which you heard on the radio. (Have some raw carrots provided for tomorrow.)	Write sentences that tell how weather reports help each of the following: a farmer, a fruit grower, a motorist, a child going to school.	Write a paragraph about an item of news you heard on the radio last night.

	(Have several pussy-willow branches brought tomorrow.)	(Have pussy-willow branches brought tomorrow.)			
Wednesday March 20 Nature Study	Look at pussy willows. Draw them, using brown crayon for the stems and lead pencil for the pussies.	* Put some of the pussy-willow branches in water, and some in a dry vase. Watch to see what happens to each.	* Cut about an inch from the leafy end of a carrot. Place in a saucer of water. Watch to see the carrot develop new leaves.	(Provide a sweet potato.) * Put one end of a sweet potato in water. (A hanging basket is good.) It should soon develop a trailing vine.	List various wild plants which blossom during March in your region. During this week try to bring some of these to the classroom.
Thursday March 21 Globe Questions	Look at a globe. The blue parts show water. Is there more water or more land on the earth?	Look at a globe. Find the North Pole and the South Pole. Which pole do you live nearer to?	Look at a globe. Find North America. Find the location of your own town or city. Is it nearer to the Atlantic Ocean or to the Pacific Ocean?	Study the globe. Locate and name all the continents shown on it. Also, find and name all the oceans. Learn to spell all these names.	On a globe, locate these major groups of islands: Hawaiian Islands, the Philippines, the West Indies, the East Indies. Which are the largest islands in each group?
Friday March 22 Word Games	*Rainbow Game.* Draw, color, and cut circles of many colors. Put them on a table. When your teacher holds up a word color card, she will ask one of you to bring her the circle of that color and name the color.	*Living Words.* Each child has a paper with one large letter on it. When your teacher calls out a word, those having its letters run to the front and stand in the right order to make the word.	* *Dumb Crambo.* One group goes out. The others think of a word with rhymes. Then they send a message—such as "We have a word that rhymes with *wall*"—to the group outside, who come in and act in pantomime such words as *small, call, fall,* until they hit upon the right word.	* *Jumbled Words.* Place many wooden or cardboard letters face up. Each child thinks of a word, selects its letters, and gives them to another child. If that child can build the word, he scores one point for himself or his side.	*Charades.* Two sides alternate, one to act, the other to guess. A word of two or more syllables is chosen. Each syllable is acted separately, and then the whole word. Examples: cab-in (3 acts), Long-fell-low (4 acts). Make each act like a little play.
Monday March 25 Milk	Draw and cut out a bottle of milk; a glass full of milk. If every child should drink one quart of milk a day, tell how many glasses of milk he must drink.	Make a word list of the steps in the story of milk. Call it "How Milk Gets from a Farm to a City Home." Begin like this. 1. farm 2. cow Have ten to twelve words in your list.	What do cows eat in summer? In winter? What are some good rules of cleanliness to follow in milking cows? In caring for milk at home? Draw and cut out a cow. Make a pasture scene on paper. Then paste your cow on the paper.	* Milk is almost a complete food. It contains protein, fat, sugar, minerals, and vitamins (also water). Tell the value of each element in the diet.	What do we mean by pasteurizing milk? How is it done? What is its value and purpose? What famous French scientist invented the process? Find what you can about him.
Tuesday March 26 Milk (continued)	What are some dishes made with milk? Try to think of at least ten. Tell how cocoa is made. Tell how milk toast is made.	Draw pictures about the story of milk. Make a milk movie by pasting the pictures together in the right order. Roll the movie on a round stick. When you show it, tell something about each picture.	Name four wholesome desserts made with milk. Tell how they are prepared.	* Place a covered bottle or jar of milk in the classroom. Do not move it. See how many days it takes to sour (make curds and whey). In souring, the milk sugar or lactose separates and becomes lactic acid.	Find out and report to your class, or a lower grade, how the following milk products are made: butter cheese ice cream concentrated milk (condensed, evaporated, dried)
Wednesday March 27 Little Lessons in Verse to Read and Learn	Be you to others kind and true As you'd have others be to you. —*New England Primer*	Kind hearts are the gardens, Kind thoughts are the roots, Kind words are the blossoms, Kind deeds are the fruits. —*Unknown*	Work while you work, Play while you play; That is the way To be happy and gay. —*M. A. Stodart*	A wise old owl lived in an oak. The more he heard the less he spoke. The less he spoke the more he heard. Why can't we be like that old bird? —*Unknown*	Look up and not down, Look forward and not back, Look out and not in, And lend a hand. —*Edward Everett Hale*
Thursday March 28 Roman Numbers	Copy these Roman numbers: 1 = I 2 = II 3 = III	V means 5. X means 10. Write these numbers by adding I's to V and X: 6, 7, 8, 11, 12.	Write the Roman numbers from I to XII, as seen on some clocks.	Write the Roman numbers to 20. Write the 10's to 100. Write 4, 24, 44, 64. Write 9, 19, 29, 49, 99.	C stands for 100. D stands for 500. M stands for 1000. Write these dates: 1492 1620 1775 1946
Friday March 29 Clay Modeling	*Paperweight.* Take some clay. Shape it into a plain block. When dry, paint with spots in several colors. Now try a paperweight shaped like a house, and paint that.	*Animal.* Take a lump of clay. Make an animal by pinching out head and legs, and shaping the body. Paint when dry.	*Dish.* Shape a lump of clay into a bowl or pin tray. When dry, paint the inside one color and the outside another color.	*Tile.* Make a square of clay ¾" thick. Smooth the surface. With a blunt pencil scratch a design. Paint when dry.	*Figurine with base.* Model a figurine upon a clay base. Use pointed sticks or clay tools, when necessary, to shape the figure.

Teachers' Help-One-Another Club

THE SHY CHILD

CAROLYN TOWLE

IT IS the teacher's job to see that the shy child is chosen to be the leader as often as the aggressive child. He can do unimportant errands at first and gradually find his rightful place in the school group. Don't put him in the background just because he is not the type to push himself forward. He can be taught to be efficient and he should be given the chance early enough in life to enable him to develop complete confidence in himself.

The aggressive child is apt to be the one chosen to do errands and to accomplish the many tasks necessary in a classroom. The busy teacher knows the job will be done quickly and efficiently and is tempted to rely on such a pupil at the expense of the reticent child.

USE WAX PAPER

WAUNETA WILCOX

I KEEP a box of heavy wax paper at my school. It is an excellent medium for window transparencies as it takes wax crayons well. The paper has a firm base and does not tear easily. Hectograph pencils may be used on the paper and the copy transferred satisfactorily on a gelatin duplicator. A picture drawn on a sheet of wax paper, colored with crayons, and mounted on bright construction paper is attractive. Children like to work with this different art material.

TWO READING AIDS

BEATRICE KRONGOLD

A MEANS of giving emphasis to the main idea of a story is to transform pupils into newspaper reporters writing the "news" into a headline, which in part answers the five W's—who, what, where, when, and why.

Again, to stress details, the pupils become detectives. They are asked to list all they can about a picture or an object seen in the classroom. Sometimes a treasure hunt, having voluminous clues, leads the way to the storybook to be used that day.

Club Contributors, Attention!

ARE you one of the many teachers who find the suggestions in the Help-One-Another Club invaluable? Perhaps you have developed ideas which you would be willing to share with others. If so, we shall be glad to have you send them to us.

We pay one dollar upon publication for each article appearing in this department. A dollar is paid for each photograph that is used.

Articles should be addressed to: Teachers' Help-One-Another Club, THE INSTRUCTOR, Dansville, N.Y. They cannot be acknowledged or returned.

An article should not exceed 300 words in length. Begin each article on a new sheet. It is not necessary to send a letter with your contribution, but if you do so, put it on a separate sheet.

Your article should be typewritten if possible, with *double spacing*. (If you submit a handwritten article, be sure to write plainly on one side of the paper only and leave space between the lines.)

See page 10 for general directions to contributors.

STAMP MAPS

JOHN FRANK MACHEN

PUT a world map on a big piece of white cardboard, leaving a generous margin. In this margin draw a rectangle for each country.

As each country is studied, canvass the class for individuals to contribute some stamps from that country. You will be surprised at how many the pupils will have. Place these stamps in the rectangle provided for that country. With a red pencil, draw a line from the rectangle to the country on the map.

The result will be an added interest in the social sciences.

LANGUAGE USAGE

BEATRICE E. DAVIS

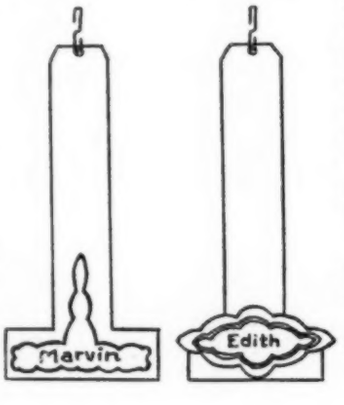
I HAD a group of sixth-graders whose use of language was extremely poor. For a few days I jotted down incorrect sentences which I heard the children speak. Then I wrote some of these sentences on the blackboard, and we discussed them. Several children recognized their own contributions. This led to making posters to be displayed in the room as constant reminders of good word usage. These were referred to many times, in both written and oral work. Posters were added as the need arose for mastering the use of a new word.

"FILE IT, PLEASE"

GLENELLE McBEATH

Teacher, Second Grade, Bessemer School, Pueblo, Colorado

WHY not have a place where each pupil can file his corrected seatwork? We use a device which is illustrated here in two styles. Each pupil hangs his best papers, or those showing the most improvement, on the hook at the top of his "file," which is merely a strip of construction paper with his name lettered at the lower end. It is made longer than any seatwork paper that he will have, so that his name will always be seen. The pupil uses his originality in decorating his file either with crayons or cut-paper designs. A hole is punched near the top, a gummed reinforcement ring put on the back, and an opened-up paper clip inserted. One end of the paper clip is hung on a wire and the opposite end becomes the filing hook.



When the collection is to be taken home, the papers are removed from the hook and stapled together. The file remains, and is ready to receive a new collection of seatwork.

QUIZ CARDS

GLADYS PAYNE

SINCE we have had quiz cards at school, my pupils learn important facts more quickly. By providing extra drill for those needing it, the cards conserve the teacher's time. After completing a unit in social studies or science, or following the weekly current-events lesson, I prepare questions that bring out facts which the children should remember. These are written on one side of cards 2″ x 4″, and the correct answers are written on the other side.

In their spare time the children study the questions which are difficult for them. At least once a month the group has a quiz. Sometimes sides are chosen and at other times each child keeps his own score. For review, the upper grades take the cards that the lower grades have had in history and geography. The children are encouraged to contribute questions. I find that the cards accumulate very rapidly.

OUR FARM PROJECT

ANNE ELIZABETH OSTEEN

IN THIS farm project we combined art, music, and spelling. First we looked at pictures of farms and farm animals. Then the children drew pictures of barns. The best drawing was selected by the children to be reproduced on a sheet of paper 24″ x 30″ and colored with water colors. We proceeded in this way until we had secured the best drawings of ponies, cows, chickens, ducks, geese, and turkeys.

After the drawings were completed we pasted them together on each side of the barn. We called this our "Movie Sheet," and we unrolled it when we sang songs about farm animals. A favorite song was "Old McDonald Had a Farm."

The pictures served a useful purpose in teaching spelling. We were able to think of fifteen words about each picture we drew, and in this way a supplementary spelling book for our grade was built up.

Much cheerful interest was added to all of our work through this project.

A Million Young Americans

The school taxes paid by railroads enable more than a million American boys and girls to go to school. In many rural areas they constitute half of all the school funds.

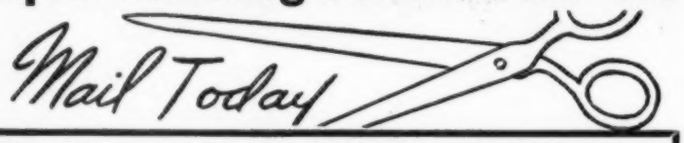
And this aid to education is only one of many ways in which the public benefits by railroad taxes. For these are *real* taxes—general taxes on railroad-owned property which go toward the support of public health, public safety, national defense, maintenance of the courts, and all other government activities and services.

No part of railroad taxes goes for building and upkeep of railroad tracks. The railroads do that themselves and, in addition, pay taxes on their tracks and other property, thus helping to build and maintain the highways, airways, and waterways used by other forms of commercial transportation which compete with the railroads for traffic.

It is a matter of pride with the railroads that they not only pay their own way as transportation companies but also are able to help in the education of American boys and girls each year.

AMERICAN RAILROADS

Helpful Teaching Materials for You



HOW TO ORDER Clip coupons offering materials that you wish to obtain, PRINT on each the required information, and mail them in one envelope to THE INSTRUCTOR, Coupon Section, Dansville, N.Y. (For other coupons, see pages 60 and 62.)

SCHOOL SERVICE, WESTINGHOUSE ELECTRIC CORP., Box 1017, Pittsburgh 30, Pa.

SPECIAL OFFER Please send me one reprint of the George Westinghouse Story—Part II. I enclose 10 cents to cover the cost of mailing . . . . additional reprints.

School .....

Name .....

School Address .....

P.O. & Zone ..... State .....

3-46 IN 16

AIR-AGE EDUCATION RESEARCH
100 East 42nd St., New York 17, N.Y.

FREE Please send me a copy of "Air Age Education News." (One copy to a teacher.)

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St. or R.D. .....

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AMERICAN VISCOSE CORP., Educ. Sect., 350 Fifth Avenue, New York 1, N.Y.

FREE (Specify quantity desired.)

Grades
1-3 Complete Teaching Unit ..... (TEI-3)
Students' Reader ..... (SEI-3)
4-6 Complete Teaching Unit ..... (TE4-6)
Students' Cartoon ..... (SE4-6)
7-9 Complete Teaching Unit ..... (TE7-9)
Students' Quiz ..... (SE7-9)

Name .....

St. or R.D. .....

P.O. & Zone ..... State .....

3-46 IN 22

TEACHERS CASUALTY UNDERWRITERS
241 T.C.U. Building, Lincoln 8, Nebr.

FREE I am interested in knowing about T.C.U.'s "10-Way Protection" Policy against accident, sickness, and quarantine. (No agent will call.)

Name .....

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3-46 IN 18

RALSTON PURINA COMPANY
16V Checkerboard Square, St. Louis, Mo.

FREE Please send me, without cost or obligation, "Teaching Kit on Cereal Grains No. C359," as described in your advertisement. (Offer limited to residents of Continental United States.)

Position .....

School .....

Name .....

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P.O. & Zone ..... State .....

3-46 IN 31

RIT PRODUCTS CORPORATION
1401 West Jackson Blvd., Chicago 7, Ill.

FREE Please send me a free copy of "Color Crafts for Everyone."

Name of School .....

Teacher of .....

Name .....

St. or R.D. .....

P.O. & Zone ..... State .....

F-3 3-46 IN 54

ENCYCLOPAEDIA BRITANNICA, Educ. Dept. 160-C, 20 N. Wacker Drive, Chicago 6, Ill.

FREE Please send me, without cost or obligation, information about Britannica Junior, and a copy of "How to Use Reference Books."

Name of School .....

Teacher of .....

Name .....

St. or R.D. .....

P.O. & Zone ..... State .....

3-46 IN 129

PILLSBURY INST. FLOUR MILLING HISTORY
Dept. M 1-39, Minneapolis 2, Minn.

FREE Please send me a copy of "The Talking Millstones" for use with my classes. (One book only to each teacher.)

Name .....

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3-46 IN 12

BRISTOL-MYERS CO., Educational Dept. 630 Fifth Ave., New York 20, N.Y.

FREE Send me Ipana's 5-Way Plan for Dental Health; Wall Chart 19" x 26"; Cardboard Model of Teeth; New Teacher's Folder; Class Hygiene Record; Dental Certificates plus New Class Certificate.

Class Enrollment..... Grade(s) .....

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School .....

School Address .....

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3-46 IN 1

F. A. OWEN PUBLISHING COMPANY
Dansville, N.Y.

FREE Please send me your free descriptive folder, giving complete information on your "Age-Level Art Appreciation Course."

Name .....

St. or R.D. .....

P.O. & Zone ..... State .....

3-46 IN 113

YOUR COUNSELOR SERVICE

IF YOU need help in teaching arithmetic, art, language (including handwriting and spelling), music, reading, science, or social studies; or if you wish to know how to use visual aids, address your questions to our counselor in that field, in care of THE INSTRUCTOR, *Editorial Department, Dansville, N.Y. A reply will appear in this department, or will be sent by mail if you enclose a stamped, addressed envelope.*

Art

JESSIE TODD

Instructor in Art, Laboratory School, University of Chicago

Please suggest a simple problem in woodworking that second-grade children could carry out.

Our pupils nail little boards together to make a shallow box without a cover. They stain it, varnish it, and use it for their broken crayons. This wooden box is low enough to fit into their desks, and is useful after the cardboard crayon boxes break.

◆

What kind of color circle should be used in teaching the theory of color to elementary-art classes?

We don't teach theory separate from practical art work or spend time making color circles. We teach children as they paint. When using colors, we may point out that: blue and orange make gray, two tones of a color harmonize, blue is made bright by adding spots of purple and green.

◆

When I say to my fifth-graders in art class, "Do what you please," they don't know what to do. What is the trouble?

This happens because they have not been given enough opportunities of that sort in the past. In order to remedy this situation you need attractive materials so that the children will want to use them. And you must not be too critical.

One day say, "Let's all list some ideas suggested by the coming of spring." Put the list on the blackboard. Then say, "I'll help you with spring flowers today, with wind tomorrow, and with people in action all next week." By that time some child will say, "Please help us draw automobiles." Do that, and then ask, "What else shall I help you with?"

After three weeks, say, "Draw anything you please." And they will!

◆

What sort of lettering problem would sixth-grade pupils be likely to find interesting?

One suggestion is book covers made of colored construction paper. For decoration, they can letter their own names and addresses in stripes to make a repeat design. They also like to letter on a large sheet of paper such words as *Art*, *Gym*, *Music*, and draw figures of people in action all over the lettering. On the word *Gym*, for example, they draw people running, jumping, swimming, and so on.

Social Studies

JOY M. LACEY

Consultant in Elementary Education, State Department of Public Instruction, Indianapolis, Indiana

What materials might I use in developing a unit on the farm in the primary grades?

For booklets, pictures, posters, and charts, write to some of the cereal companies, milk companies, and meat-packing houses which advertise nationally. Clip coupons from THE INSTRUCTOR's Coupon Section.

The following books are good:

Story Pictures of Farm Foods, by John Y. Beaty (Beckley-Cardy Co., Chicago 16).

Susan's Neighbors at Work, by Paul R. Hanna and others (Scott, Foresman & Co., Chicago 5).

We Live on a Farm, by Ernest Horn and others (Ginn & Co., Boston 17).

Country Days, by Blanche J. Dearborn (The Macmillan Co., New York 11).

◆

Please recommend a social-studies topic for third-grade children that would make a good radio program.

The organization of a club to take care of safety or good citizenship, or a regular meeting of such a club, makes a good setting for a radio program. Discuss safety in the home—taking care of toys, closing doors, arranging the furniture, putting away clothes, and climbing on ladders or stools. Care in crossing streets, walking along highways, and watching at railway crossings are other phases of safety that could be used.

Common courtesies at home, in school, libraries, theaters, and stores, and on the street could be worked into a good radio program.

◆

Please suggest a long unit for my fourth-graders to develop during the last quarter of the school year.

The study of your home state is a good unit. Study its early history as well as the present-day life. Write to local places of historical interest for materials. Chambers of Commerce, State Park and Conservation Departments, and the State Library Association will usually supply pictures and leaflets on request. Use maps and the globe to locate the state, its main physical features, and neighbor states. Take trips and invite speakers to talk to the class. Arrange reports on climate, natural resources, soil, cities, highways, and state parks.

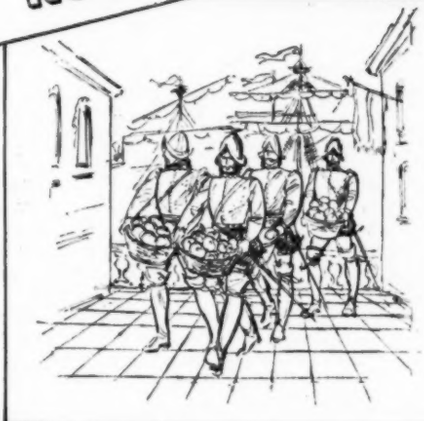
THE STORY OF FOOD

How man has preserved it through the ages

NO. 6 TOMATOES

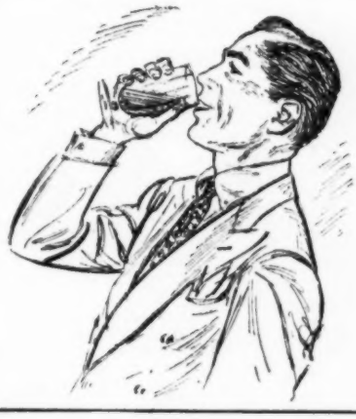
4.

The tomato is exceedingly rich in scurvy-fighting Vitamin C, and contains above-average amounts of A, B, and G. It is a great thirst-quencher. Canned tomatoes are often included in the desert rations of soldiers and explorers.



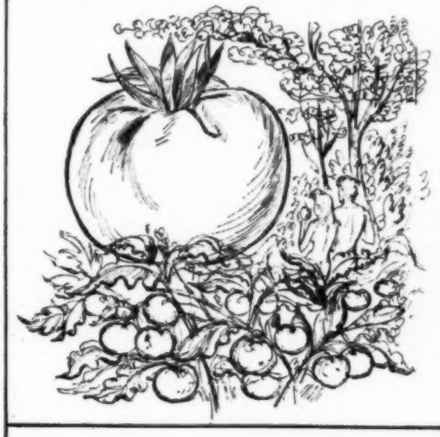
1.

First cultivated by the Aztecs, the tomato was brought to Europe by the Spanish Conquistadors. There it was recognized as one of a botanical family, most of whose members were poisonous. Hence, the ancient superstition that tomatoes were poisonous.



5.

From the tomato come some of the nation's favorite drinks—tomato juice and other tomato drinks. It is enjoyed for breakfast, lunch, and dinner all over the country. Conveniently canned, tomato juice is part of the basic American diet.



2.

The tomato was called the wolf apple; the love apple; the forbidden fruit of Eden; and—of course, these "beliefs" are untrue; the tomato is a delicious and nutritious food.

6.

Tomatoes grown for canning are allowed to ripen fully on the vines before being packed. No water goes into cans containing tomatoes; all liquid within is pure tomato juice. And the canning process allows extremely little of the precious Vitamin C to escape.

3.

Botanically, the tomato is actually a fruit, but it is thought of and used as a vegetable. The short-lived tomato plant is indigenous to South America, cultivated in Mexico and Peru. This tender annual requires long periods of sunshine to ripen to full maturity.

7.

Canned tomatoes are another example of how modern canning methods make nature's finest crops readily available to all . . . with both nutritive and flavor values retained to a high degree. The single largest maker of cans for food is American Can Company.

AMERICAN CAN COMPANY (CANCO) **NEW YORK · CHICAGO · SAN FRANCISCO**

WORLD'S LARGEST MANUFACTURERS OF FIBRE AND METAL CONTAINERS

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H. J. HEINZ COMPANY, Dept. IN-f
Pittsburgh 30, Pa.

FREE Please send me ... reprints, for classroom use, of the Picture-Story of the Peanut, the Heinz advertisement appearing in this issue of THE INSTRUCTOR. (This offer good only in U.S.A.)

Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 3

DE VRY CORPORATION, Dept. 1-B4
1111 Armitage Ave., Chicago 14, Ill.

FREE ☐ Please mail new free catalog of visual teaching equipment and name of nearest DeVry School Supply Dealer. ☐ Please send free catalog of Educational and Entertainment Films.

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School .....
Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 99

GREYHOUND INFORMATION CENTER, Rm. 200
113 St. Clair Ave., N.E., Cleveland 14, Ohio

SPECIAL OFFER Please send me, for my classroom, a copy of "Famous Highways of this Amazing America," your full-color historical wall display. I enclose 10c to cover handling and mailing.

School .....
Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 93

RAYON DIVISION, E. I. du Pont de Nemours & Co., 350 Fifth Ave., New York 1, N.Y.

FREE Please send me the items checked. ☐ Rayon Handbook for Teachers. ☐ Rayon Wall Chart. ☐ Rayon Booklets for Student Use. ☐ Information on du Pont Rayon Motion Pictures with Sound.

School .....
Number of Students ..... Grade .....
Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 43

UNITED AIR LINES, School Service, Dept. I-3
231 So. LaSalle St., Chicago 4, Ill.

FREE Send me free materials for teaching air transportation to the grade levels checked below; also an order blank on which I may request more materials: Primary ☐; Intermediate ☐; High School ☐. Also find 25c (for each kit) enclosed for complete teaching kit for: Primary ☐; Intermediate ☐; High School ☐.

Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 61

F. A. OWEN PUBLISHING COMPANY
Dansville, N.Y.

FREE Please send me your new "Catalogue of Aids for Better Teaching," just off the press, which describes many publications of interest to teachers.

Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 114

NATIONAL COTTON COUNCIL
Box 18, Memphis 1, Tenn. (Dept. 30)

FREE Please send me ..... free copies (limit 25) of the booklet, "Bag Magic" containing over a hundred ideas for sewing with cotton bags.

Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 71

COLORADO DEPT. OF PUBLIC RELATIONS
217 State Capitol, Denver, Colorado

FREE Please send the information checked: ☐ Illustrated Booklet; ☐ Dude Ranches; ☐ Fishing and Wildlife; ☐ Highway Map.

Name .....
School Address .....
P.O. & Zone ..... State .....
3-46 IN 130

ROW, PETERSON AND COMPANY
1910 Ridge Avenue, Evanston, Ill.

FREE ☐ Please send me a free catalog of Plays for Children (including Junior High). If plays for older groups are desired, please state your needs.

School .....
Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 109

KELLOGG COMPANY, Home Economics Dept.
Battle Creek, Michigan

FREE Please send me ..... copies of Kellogg's "Health Habits" Chart, for pupils.

School .....
Name .....
St. or R.D. .....
P.O. & Zone ..... State .....
3-46 IN 125

YOUR COUNSELOR SERVICE

Arithmetic

FOSTER E. GROSSNICKLE

Professor of Mathematics, New Jersey State Teachers College, Jersey City, New Jersey

What are some of the chief causes of the difficulty pupils have in solving problems in arithmetic?

Fundamentally, the difficulty of solving problems in arithmetic results from a lack of experience on the part of the pupil. Ability to solve problems cannot be improved except as the pupil grows in experience. Research studies dealing with failure in problem solving show that the following are the chief causes of the difficulty:

1. Failure to understand the problem wholly or in part, due to poor reading ability or to inability to visualize the situation described in the problem.

2. Faulty reading of the problem, which results in the omission of the essential idea or in misreading the central thought conveyed.

3. Inability to perform the computations involved. The pupil may have forgotten the process or he may never have learned it.

4. Lack of understanding of the essential facts, rules, and formulas, such as the number of inches in a foot or a yard or the procedure in finding the area of a given figure, for example a triangle.

5. Unfamiliarity with such terms as *cost*, *margin*, and *selling price*, in a specialized vocabulary, and with the quantitative relationship implied in the usage of these concepts.

6. Level of mental ability too low to grasp relationships from verbal statements.

◆

Of what practical use in arithmetic is such a topic as finding the greatest common divisor?

There is no practical value in learning to find the greatest common divisor. A teacher cannot justify giving instruction in this phase of work in arithmetic in the elementary school.

When courses of study included work in unusual fractions having denominators in excess of 100, there may have been a need for a pupil to find the greatest common divisor of two or more denominators so as to get the least common denominator quickly. A modern arithmetic program selects only those examples in addition and subtraction having fractions whose common denominator can be found readily by inspection. In such a program, the greatest common factor and the lowest common denominator have no social significance, and for that reason they should be eliminated from the curriculum.

Reading

DELIA E. KIBBE

Supervisor of Elementary Schools, State Department of Public Instruction, Madison, Wisconsin

What can be done in a schoolroom to provide what may be called a good reading environment?

First, have books everywhere, being sure that they are well selected, in good condition, well arranged, and attractively displayed. Discard old, worn, soiled, and unattractive books. Have bookshelves, and reading tables in the room's most inviting spot.

Vary your bulletin-board displays with book jackets, brief reviews, book lists, and announcements concerning books, cartoons and riddles about books, illustrations for books drawn by the pupils, and post cards of the locale of certain books.

Organize book clubs. Have children make a storybook movie, dramatize stories, pantomime stories, collect books of poetry, find books about their own state, and make book maps showing the geographic background of the books they have read.

◆

Should the sentences on a primary reading chart be written one under another or in paragraph form? How indented?

For first-grade pupils, the sentences should be written one under another. The following typical chart story illustrates the most commonly accepted form.

OUR BULB

We have a bulb.
It is a narcissus bulb.
It looks like an onion.
It feels like an onion.
But it does not smell like one.
We need rocks and water and a bowl.

◆

What kinds of reading should upper-grade elementary-school pupils do for homework, in your opinion?

All kinds of pleasure and recreational reading at home should be encouraged. If properly motivated, pupils will do a vast amount of reading in connection with social-studies or science units.

The undesirable way to plan for home reading is to require a given number of pages, each day or week, to be read out of schooltime. Such a requirement does not develop interest, and children frequently resort to reading material far below the standard which they could or should maintain. They simply take easy material and skim through it as rapidly as possible so as to cover the required number of pages.

BEFORE MAKING USE OF THIS FREE SERVICE, REFER TO THE DIRECTIONS FOR SENDING QUESTIONS—SEE PAGE 58.

Stand by, please... Have a Coke

...the day's program turns to refreshment

The crowd's favorite meeting place! There over ice-cold Coca-Cola you meet friends, swap stories, catch up on local news and add your own two-bits' worth to world opinion. The friendly pause and Coca-Cola go together. There's no nicer invitation to happy comradeship than the words *Have a Coke.* (So why not *Have a Coke* yourself.)

Coke = Coca-Cola

"Coca-Cola" and its abbreviation "Coke" are the registered trademarks which distinguish the product of The Coca-Cola Company.

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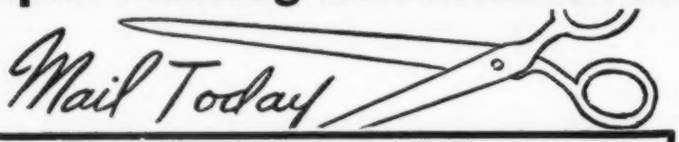
Helpful Teaching Materials for You



HOW TO ORDER Clip coupons offering materials that you wish to obtain, PRINT on each the required information, and mail them in one envelope to THE INSTRUCTOR, Coupon Section, Dansville, N.Y. (For other coupons, see pages 58 and 60.)

THE GROLIER SOCIETY, INC.
2 West 45th St., New York 19, N. Y.

FREE Please send me, without obligation, your new circular entitled "Teaching as a Career."

Name of School

Teacher of

Name

St. or R.D.

P.O. & Zone State

3-46 IN 96

CANADIAN NATIONAL RAILWAYS
360 McGill St., Montreal, Que., Canada

FREE Please send me booklet on Jasper National Park; also one on Minaki Lodge.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 128

CEREAL INSTITUTE, INC., Educ. Dept. I-346
135 South LaSalle St., Chicago 3, Ill.

FREE Elementary Breakfast Teaching Kit. Please send me a "Good Breakfast for a Good Morning" Elementary Teaching Kit for 4th and 5th grades, consisting of two wall charts, teachers' manual, authorities folder and 40 work sheets.
School

Name

St. or R.D.

P.O. & Zone State

3-46 IN 9

F. A. OWEN PUBLISHING COMPANY
Dansville, N.Y.

SPECIAL OFFER Please send me a copy of "Designs for Room Decorations" (32 designs in hectograph ink with Teacher's Manual). ☐ As an INSTRUCTOR subscriber, I enclose 80c. ☐ I enclose $1.00, the regular price.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 24

ASSOCIATION OF AMERICAN RAILROADS
Transportation Building, Washington 6, D.C.

FREE Please send me a copy of your question-and-answer book, "Quiz on Railroads and Railroading."

I am a teacher at School.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 67

E. M. HALE AND COMPANY
Eau Claire, Wisconsin

FREE Please send me a sample copy of "See and Hear," the journal on audio-visual learning.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 131

DITTO, INC.
2245 West Harrison St., Chicago 12, Ill.

FREE Without obligation, please send: ☐ "New Short Cuts in Education" brochure; ☐ Arrange a Ditto demonstration for me; ☐ Free sample workbook lessons for grade(s) indicated ; ☐ New Ditto Workbook Catalog.

School

Name

St. or R.D.

P.O. & Zone State

3-46 IN 15

F. A. OWEN PUBLISHING COMPANY
Dansville, N.Y.

SPECIAL OFFER Please send me a copy of "The Instructor Handcraft Book." ☐ I am accepting your special offer to INSTRUCTOR subscribers, and enclose 80c. ☐ I enclose $1.00, the regular price.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 19

TWA AIR WORLD EDUCATION SERVICE
Kansas City 6, Missouri

FREE Please send me the teaching aids for: ☐ Social Science; ☐ Aeronautical Science; ☐ Airline Job Opportunities; Educational Tours ☐ U.S. ☐ Foreign. To be used in ☐ Elementary School; ☐ High School; ☐ College.

Name

St. or R.D.

P.O. & Zone State

3-46 IN 127

FISHER BODY CRAFTSMAN'S GUILD
General Motors Bldg., Detroit 2, Mich.

FREE Please send me complete information relative to ☐ Napoleonic Coach Competition; ☐ Model Car Design Competition; ☐ Color Slide Film for Classroom use.
Subject taught

Number of eligible boys in my classes

Name

St. or R.D.

P.O. & Zone State

3-46 IN 122

YOUR COUNSELOR SERVICE

Music

LAURA BRYANT
Teacher of Singing, Public Schools, Ithaca, New York

Do you consider that it is wise to use the piano when teaching songs to little children?

No. It is much better to have the class learn the songs directly from the teacher's voice. Getting the pitch and testing the pitch are best done by using a pitch pipe. The main thing for the teacher to do is to listen for errors. She should not sing with the children. The piano or her voice would cover the voices of the children so that errors would be less perceptible. Correctness of pitch, tune, and enunciation should be constantly stressed and watched for.

◆

Please describe the procedure that you favor a teacher's using to introduce a new song in her classes.

This procedure which I recommend may be spread over more than one day. Sing the song through several times for the class. Then sing each phrase separately two or three times, and have the children sing each phrase back to you. Correct any errors instantly. Next sing two phrases, then three, and so on, until the class can sing the entire song correctly. Watch carefully for errors, because immediate correction is imperative.

◆

What is the best way to teach eighth-graders who have not had much music, to love and appreciate music?

The best way to learn to appreciate music is to learn to take part in music in some way. If a child is taught to match tones and sing from early childhood throughout the grades, appreciation comes as naturally as appreciation of literature comes through reading. If a child reaches the eighth grade without this education, it is not so easy. But a definite, well-planned program of listening lessons will help. The education department of the RCA Manufacturing Company, Camden, N.J., will help you choose records for such a program. The radio can be very helpful.

Guide your classes, boys especially, in listening. Select programs of good singing. Don't make the mistake of forcing the class to listen to classical music beyond their present ability to comprehend. Listen to old songs, easy songs, appealing songs, popular songs—anything that will arouse interest. Let them sing some of these songs. Even a hill-billy song sung by eighth-grade boys is better than no song. Gradually and tactfully introduce better music.

Visual Aids

F. DEAN McCLUSKY
Extension Division, University of Michigan, Ann Arbor, Michigan

Is it essential, when using slides, for the teacher to stand near the screen and have someone else operate the lantern?

No, it is not essential that the teacher lead a discussion of lantern slides from in front of the class. Some of the best lessons I have witnessed were conducted by the teacher who was operating the lantern herself from the middle or from the back of the classroom. In other instances of good teaching, when the teacher had someone else operate the lantern, she kept to the side and rear of the room and only came to the front to call attention to some object in the picture. One of the advantages of using lantern slides is that the classroom procedure may be adapted to meet the needs of the pupils and to suit the convenience of the one who is leading the discussion.

◆

How may pictures that are cut out of magazines and newspapers be used to good advantage in the classroom?

Pictures in magazines and newspapers make excellent teaching aids. They should be carefully cut out and classified by topics. Then pupils may use them for individual study and analysis, for testing concepts and knowledge of locations, for illustrating scrapbooks, and for posting on the bulletin board.

Pictures which have permanent value should be mounted on cardboard and filed by topics for ready reference.

◆

Where may one secure information about the use of audio-visual aids by the armed forces in their training programs?

The Federal Security Agency and U.S. Office of Education have recently published a bulletin entitled *Use of Training Aids in the Armed Services* which outlines the implications for civilian education of the use of audio-visual materials in the training of service men and women. Part I describes the training programs of the armed services and Part II deals with the use of training aids and devices. Part III describes training aids and devices for civilian education which are obtainable from the Army Air Forces. A bibliography of selected references completes the bulletin.

Use of Training Aids in the Armed Services, U.S. Office of Education, Bulletin 1945, No. 9, may be obtained by addressing the Superintendent of Documents, Washington, D.C. The price is ten cents.

BEFORE MAKING USE OF THIS FREE SERVICE, REFER TO THE DIRECTIONS FOR SENDING QUESTIONS—SEE PAGE 58.

AT WHAT AGE ARE DIETS POOREST?

As school children grow older, good eating habits tend to go downhill. With the onset of the 'teens and continuing through high school, diets reach a nutritional low, according to a recent study in nine test schools.

Whatever the causes—press of new outside interests, impatience with routines, resistance to authority—the poor quality of the average high school diet is a fact . . . one that may very well have far-reaching effects on school work habits, behavior and ability to learn.

In this study, which analyzed the breakfasts eaten by grade school and high school pupils, comparative ratings were established by expert nutritionists. Against an ideal possible score of 6.0 points, these were the ratings of the meals consumed:

In grades 1 to 8, the average rating of 3211 breakfasts was.....3.5

In grades 9 to 12, the average rating of 942 breakfasts was.....2.5

Most unfortunate, here, is the paradoxical *change* in breakfast menus. Among adolescent boys and girls, who surely need three square meals, there is seen a definite *worsening* of eating habits.

As an aid to teachers who would like to correct such trends in nutrition, General Mills, Inc. is now preparing a variety of educational materials. These are booklets, posters, plan books and other tools—all prepared under the direction of a committee of educators. This complete program will be available in limited quantities without cost, at an early date.

EVERY DAY'S DIET SHOULD INCLUDE THESE FOODS

GREEN AND YELLOW VEGETABLES . . . some raw, some cooked, frozen or canned. At least one serving a day.

ORANGES, TOMATOES, GRAPEFRUIT . . . or raw cabbage or salad greens. At least one serving a day.

POTATOES AND OTHER VEGETABLES AND FRUITS . . . raw, dried, cooked, frozen or canned. Two or more servings a day.

MILK AND MILK PRODUCTS... fluid, evaporated or dried milk. One quart (or its equivalent) a day for children and expectant or nursing mothers; one pint a day for all others.

MEAT, POULTRY, FISH OR EGGS...or dried beans, peas, nuts or peanut butter. One serving of meat, poultry or fish a day, occasionally peas or beans instead. Three or four eggs each week.

BREAD, FLOUR, CEREALS ... natural whole-grain or enriched or restored. Three or more servings a day.

BUTTER AND FORTIFIED MARGARINE . . . use for spreads and for seasoning as you like and as supplies permit.

In addition, all growing children and all expectant or nursing mothers should be provided with 400 units a day of Vitamin D in the form of Vitamin D milk (fresh or evaporated), Fish liver oil or Vitamin D concentrate

General Mills, Inc.
Minneapolis, Minnesota

Enriched Flours • Restored Cereals • Vitamin Products

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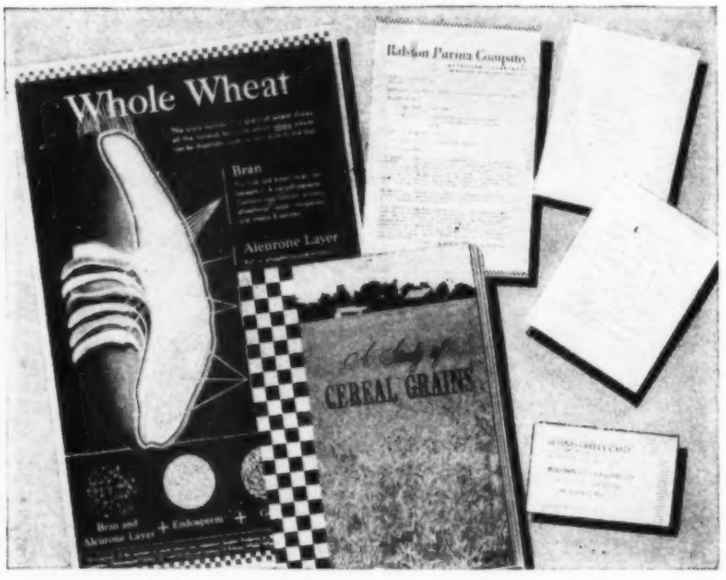
UNIQUE TEACHING AIDS FREE!



This helpful, interesting material was prepared under the supervision of experienced nutritionists. First offered last year, it was received enthusiastically by thousands of teachers.

The teaching aids, pictured above, are: (1) full-color wheat kernel wall chart; (2) full-color 8-page pamphlet, "A Study of Cereal Grains"; (3) explanatory letter; (4) one-act play; (5) classroom projects. Postcard is included so that play and pamphlet can be ordered in quantities for students.

USE COUPON FOR YOUR FREE KIT

You appreciate, more than anyone else, what a great opportunity you have in helping to mold the future of American youth. You know, too, that you can give more of yourself to this vital assignment when you feel your best. May we suggest that you eat Ralston cereals regularly? Hot Ralston is whole wheat with 2½ times as much natural wheat germ as whole wheat itself. For this reason, it can honestly be said that *hot Ralston protects from inside!* The extra wheat germ also gives hot Ralston a rich heart-of-wheat flavor. Won't you try it . . . soon?

TWO KINDS OF HOT RALSTON

COOKS IN 5 MINUTES

COOKS IN 10 SECONDS

RALSTON PURINA COMPANY, Nutrition Dept.
16V Checkerboard Square, St. Louis 2, Missouri

Please send, no cost or obligation, Teaching Kit on Cereal Grains, No. C359.

*Name*_____

*Title or Position*_____

*School*_____

*Street*_____

*City*_____ *Zone*_____ *State*_____

(Offer limited to residents of continental United States)

Use Above Coupon or Coupon on Page 58

RALSTON PURINA COMPANY

CHECKERBOARD SQUARE

ST. LOUIS, MISSOURI

YOUR COUNSELOR SERVICE

Science

GLENN O. BLOUGH

Instructor in Science, Laboratory School, University of Chicago

Language

MILDRED A. DAWSON

Associate Professor of Elementary Education, University of Tennessee, Knoxville, Tennessee

Do you think that clay modeling is a good activity to carry on in connection with science lessons?

If making clay models helps pupils to understand more thoroughly some science concept, and at the same time does not detract from the pleasure and appreciation derived from an art project, then I consider it a good activity. Interesting and successful dinosaur models have been made of clay by pupils while studying fossils. Models have been made of river valleys to show erosion, and of the solar system to show the proportionate size and the relative positions of the planets. Children enjoy such projects. The planning and executing of them, if intelligently directed by the teacher, are good group activities.

◆

What are some topics that may be considered when elementary-school pupils study about spiders?

Children will find the following problems interesting and instructive. How are spiders helpful? Harmful? How do spiders raise young? How do spiders protect themselves? How do they find food? How are spiders fitted to live where they do? How do spiders make webs? How do spiders differ from insects?

Spiders, by Bertha Parker (Row, Peterson & Co., Evanston, Ill.; $.32), is a good reference book.

◆

I should appreciate your opinion on the subject of testing as it applies to fourth-grade science work.

Testing in grade-school science still leaves much to be desired, just as does evaluation in many other fields. The test should, of course, be designed to measure to what extent the learners have attained certain objectives. If your purposes are to create and develop in your pupils an interest in their environment, to teach certain subject matter, to foster the development of scientific attitudes, and to instill certain skills and appreciations, then the test should attempt to evaluate the extent to which your pupils have grown in these respects.

It is comparatively easy to measure how much subject matter has been learned. It is extremely difficult to devise an adequate test to measure an attitude, skill, appreciation, or interest. Actual controlled observation of the performance of children will be the best testing procedure when it is finally worked out.

Since manuscript writing is somewhat different from the print in textbooks, won't it be confusing to beginners?

Manuscript writing is more like print than cursive writing is. Experiments show that second-graders who learned manuscript writing in first grade have a reading proficiency six months ahead of second-grade children who did not learn it. Besides being an aid in learning to read, manuscript writing is itself much easier to learn than cursive writing, and is much more legible at the early primary level.

◆

How shall I mark the errors in compositions that I want my fifth-graders to correct?

In the left margin of the composition paper, write the following symbols on the lines where the errors occur. Use *sp.* for a word that is misspelled, *cap.* for a capital letter that has been omitted, *no cap.* for an excess capital letter, and each of the various punctuation marks in a circle. For example, make a marginal circle with a dot in it to indicate an error in using a period.

If two sentences are written together, draw a line along the side of these sentences and write *S2*. If a phrase or clause has been punctuated as if it were a complete sentence, write *S½*. To show that a new paragraph should be started, draw a small arrow from the first letter of the sentence concerned to the point on the paper where this letter would come if properly placed.

◆

I sponsor a school magazine. Where can I secure suggestions for covers, lettering, writing articles, and the like?

The following should prove helpful: *Bookbinding for Schools*, by J. S. Hewitt-Bates (Manual Arts Press, Peoria 3, Ill.); *Crafts for Fun*, by Evadna Kraus Perry (Wm. Morrow Co., Inc., New York 16); *P's and Q's; a Book on the Art of Letter Arrangement*, by Sallie Tannahill (Doubleday & Co., Inc., New York 19).

For help in the guidance of writing, I suggest that you consult upper-grade English textbooks. I found helpful materials in these books: *We Talk and Write*, by Lawrence J. O'Rourke (Scott, Foresman & Co., Chicago 5); *In School and Out*, by Harry A. Greene (Row, Peterson & Co., Evanston, Ill.); *Building Language Skills*, by J. C. Tressler (D. C. Heath & Co., Boston 16).

BEFORE MAKING USE OF THIS FREE SERVICE, REFER TO THE DIRECTIONS FOR SENDING QUESTIONS—SEE PAGE 58.

JASPER...Gem of the Canadian Rockies

GOOD NEWS for all who remember glorious vacations at friendly, informal Jasper Park Lodge! Yours again this summer is the incomparable splendor of snowy peaks reflected by mirror lakes, Amethyst, Maligne, Beauvert. Here are historic trails of fur traders, trappers and explorers — David Thompson, Pierre de Smet, Sir James Douglas — who, in years long past, forced their way through this rugged and picturesque land. There's swimming in the heated outdoor pool. On horseback or afoot, you can follow luring skyline trails that rim the broad Athabaska Valley. Motor to the Columbia Icefield, biggest glacier south of the Arctic. Go canoeing, play tennis, dance, snap amusing closeups of frolicsome bears and deer at Jasper, Showplace of the Canadian Rockies. Everything's ready for you! Visit us between June 15 and Sept. 15. Rates from $9 per day, including meals. Accommodations for 650 guests.

NO PASSPORT NEEDED! Your vacation dollar goes farther in Canada. Jasper and other Canadian vacationlands are easily reached from all U. S. points via Canadian National. Call or write for descriptive folders and information.

Columbia Icefield—Jasper National Park

Canadian National Offices in the U. S.—Boston, Buffalo, Chicago, Cincinnati, Detroit, Duluth, Kansas City, Los Angeles, Minneapolis, New York, Philadelphia, Pittsburgh, Portland, Me., San Francisco, Seattle, St. Louis, Washington, D. C.

RAILWAYS · STEAMSHIPS · AIRLINES · HOTELS · TELEGRAPHS · EXPRESS
CANADIAN NATIONAL RAILWAYS

CANADIAN NATIONAL
TO EVERYWHERE IN CANADA

Yours Again, Too—Minaki
A hundred miles east of Winnipeg, in the Lake of the Woods country, another Canadian National summer resort, hospitable Minaki Lodge, offers golf, fishing, swimming and boating.

East, West ... You're

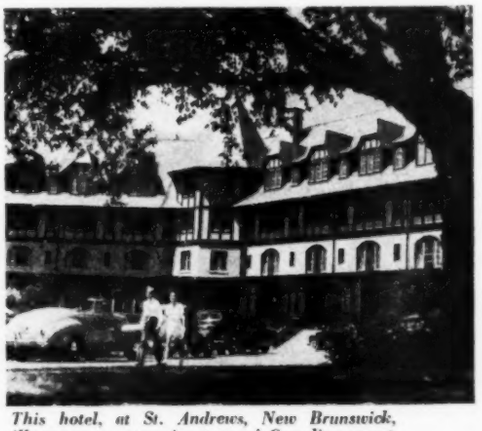
ESPECIALLY IN THIS

Evangeline and the Acadians are commemorated by Nova Scotians in Grand Pré Memorial Park.

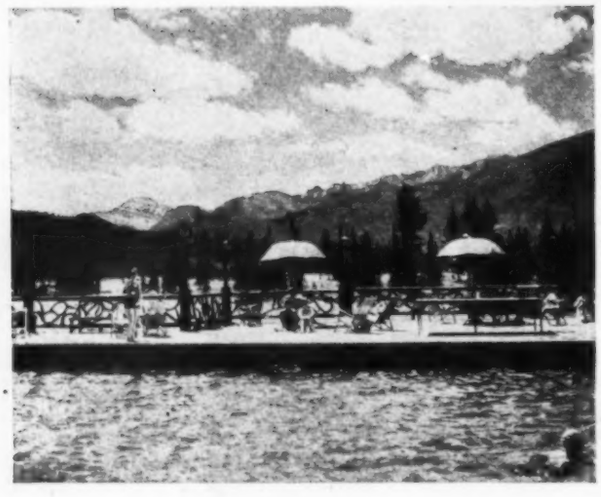
Above: For a lover of mountains, life is pure joy in the Banff Park area of the Rockies. Below: Quebec City provides entrancing contrasts of the old and the new.

A continent apart are the scenes above and below—the Lions Gate Bridge at Vancouver and the fiordlike Saguenay River in Quebec.

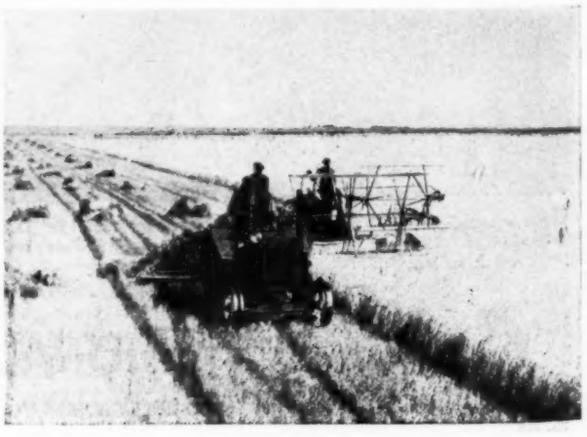
A party arrives at its camping place on Kingsmere Lake, in Prince Albert Park.



This hotel, at St. Andrews, New Brunswick, illustrates an attractive type of Canadian resort.



Left: Swimming in a heated pool is combined with rugged activity in summit-ringed Jasper Park. Right: The prairie provinces offer many a harvesting sight such as this.



Photographs on pages 66, 67, and 68 were supplied by Canada Steamship Lines, Canadian Government Travel Bureau, Canadian National Railways, Canadian Pacific Railway, Ontario Travel and Publicity Bureau, Province of Quebec Tourist Bureau.

Canada's Guest

VICTORY VACATION YEAR

Dominion government activities are centered in Ottawa, where the Parliament Buildings stand out against the sky.

FROM Nova Scotia to British Columbia, the Land of the Maple Leaf is hospitality personified. This doesn't need to be proved to hundreds of thousands of visitors from south of the international border—the line that is not a *Line* because it has been unfortified for a century and a quarter. These travelers have made discoveries for themselves. "Hands across the border" hasn't been enough. Their idea of neighborliness is to go the whole way and then say, "Come over and visit *us* sometime." After basking as long as possible in the pleasant warmth of a Canadian welcome, they have returned home to spread the good news among their friends.

Perhaps all we need to do, really, is to suggest that you look up some people who have vacationed in the Dominion. Your Sally and Sue may be lovers of outdoor life who will talk for hours of fishing exploits or of canoeing on the lakes and streams of Ontario. Or they may wax eloquent over a trip down the St. Lawrence and up the Saguenay, with glimpses of French-Canadian rural life and excursions into a romantic past of hardy explorers and swashbuckling conquerors, heroic missionaries and picturesque Indian chiefs.

The returned wanderers possibly had a "farthest East" urge, and gazed out upon the Atlantic from the shores of one of the Maritime Provinces—Nova Scotia, New Brunswick, Prince Edward Island. Or they may have crossed the vast wheat-growing prairie provinces of Manitoba, Saskatchewan, and Alberta, tarrying here and there, before reaching the glorious Rockies and Selkirks.

If Sally and Sue (or, for that matter, Sam and Steve), went to Jasper, Banff, Lake Louise, or any one of a hundred places among the soaring peaks of Canada's mountain playground, you may have to make a rude break for liberty if you hope to *see* those places instead of merely hearing about them.

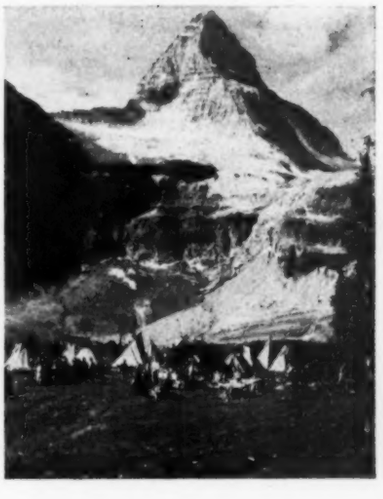
Of course your friends may be the sort of people who are never stopped by anything—even the Canadian Rockies! They always have to see what is on the other side. In that case, you'll be carried right on to the verge of the blue Pacific, and probably over the verge—beyond the great port of Vancouver to Vancouver Island where (of all unexpected places in North America) you will be introduced to a city as English as its name—Victoria, the capital of British Columbia.

Speaking of cities, anyone misses a great deal who doesn't have at least a "tasting" acquaintance with Montreal and Quebec, Ottawa and Toronto, Halifax, Fredericton, and Charlottetown—to name a few in the East. In the Midwest there are such progressive centers as Winnipeg and Regina, Calgary and Edmonton, Saskatoon and Moose Jaw, where the visitor rubs his eyes and wonders whether he has not been whisked back into the States and set down in a typical Iowa or Nebraska town.

(Continued on next page)

Left: Where the Atlantic rolls in on Prince Edward Island at Cavendish Beach, there is majestic surf. Right: Three centuries old and still turning is the record of this Quebec windmill.

A French chateau? No, a modern hotel facing the harbor of Victoria, farthest-west capital.

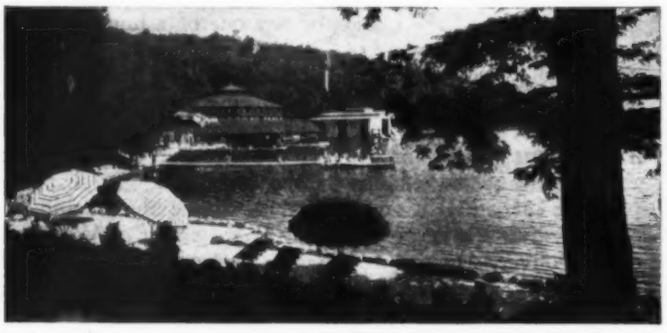


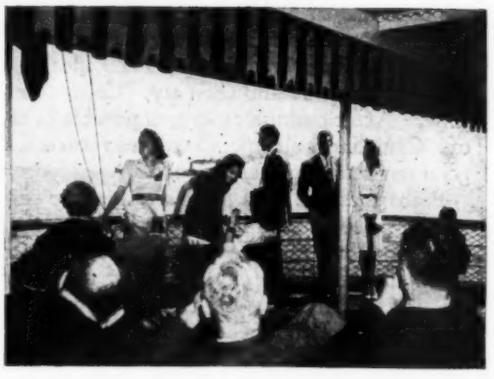
Above: French Canadians like outdoor ovens. Right: Trail Riders camp at the foot of the "Canadian Matterhorn," Mount Assiniboine.

The names of capital cities and metropolises always bring a thrill, with their connotation of power, civic beauty, and cultural opportunities. But there is magic in the name of many a smaller place and remoter region—witness Cape Breton, Grand Pré, Annapolis Royal, Gaspé, Ste. Anne de Beaupré, Tadoussac, Percé, Ile d'Orléans.

Vacationists who seek active recreation find in Canada a nation of outdoor-sports enthusiasts—summer and winter. Every possible provision is made for them. Travelers who particularly enjoy journeys, whether by train, bus, boat, or plane, have their choice of the most modern facilities. Two great railway systems span the continent. Motor-coach lines operate over smooth highways. Ships designed for inland-waterway or coastal trips provide thousands of miles *(Continued on page 83)*

Montreal, on the St. Lawrence, with its near-million population, is a center of business and finance and a great port.





Left: Ontario has countless delightful lakes, of which the Muskoka chain is typical. Right: For a restful vacation trip, how about a leisurely cruise on the Great Lakes?

$1,000.00 TRAVEL CONTEST for 1946

OPEN TO ALL TEACHERS

GOOD NEWS! Now, in this Victory Vacation Year, THE INSTRUCTOR is resuming its Travel Contests for teachers. As a patriotic American teacher, you willingly accepted the restrictions of the war years. You saved and conserved and sacrificed for a great cause. *Surely you've earned a real vacation—now enjoy it!*

The Contest offers you a grand opportunity to tell other teachers about your travel experiences. You are eligible if you are a teacher in active service (or subject to call as a substitute), a school librarian, a school executive or supervisor.

Any public means of transportation may be used, and private automobiles incidentally; a trip entirely by private automobile does not qualify.

To enter the Contest, simply fill out and send the Entry Blank below, *being sure to write plainly*. We will mail you a copy of the Contest Rules, with Cover Sheet for your Contest Letter.

You can change to another trip later if you wish—and if you find that you cannot take any trip you will be under no obligation. So plan to enter the Contest, and tell others about it. Clip and mail the Entry Blank NOW!

ENTRY BLANK—1946 TRAVEL CONTEST

Travel Editor, THE INSTRUCTOR Magazine, Dansville, N.Y.

I hope to go to_____ on a Victory Vacation Trip this year and would like to know more about your $1,000.00 Cash Travel Contest for 1946. Please send me the Rules, with a Cover Sheet for the Travel Letter which I will write after returning from my trip.

My Name is_____

My Address is_____

My Position is (Be Definite)_____

Please send additional copies of the Rules and Cover Sheets to the following teacher friends, who, I believe, would be interested.

Name	Address

In-3-46 (Paste this Entry Blank on the back of a 1c postal card or mail in a sealed envelope)

46 CASH PRIZES TOTALING $1,000

First Prize	$ 300.00
Second Prize	200.00
Third Prize	100.00
Fourth Prize	75.00
Fifth Prize	50.00
Sixth Prize	25.00
10 Prizes of $10.00 each	100.00
30 Prizes of $5.00 each	150.00
	$1,000.00

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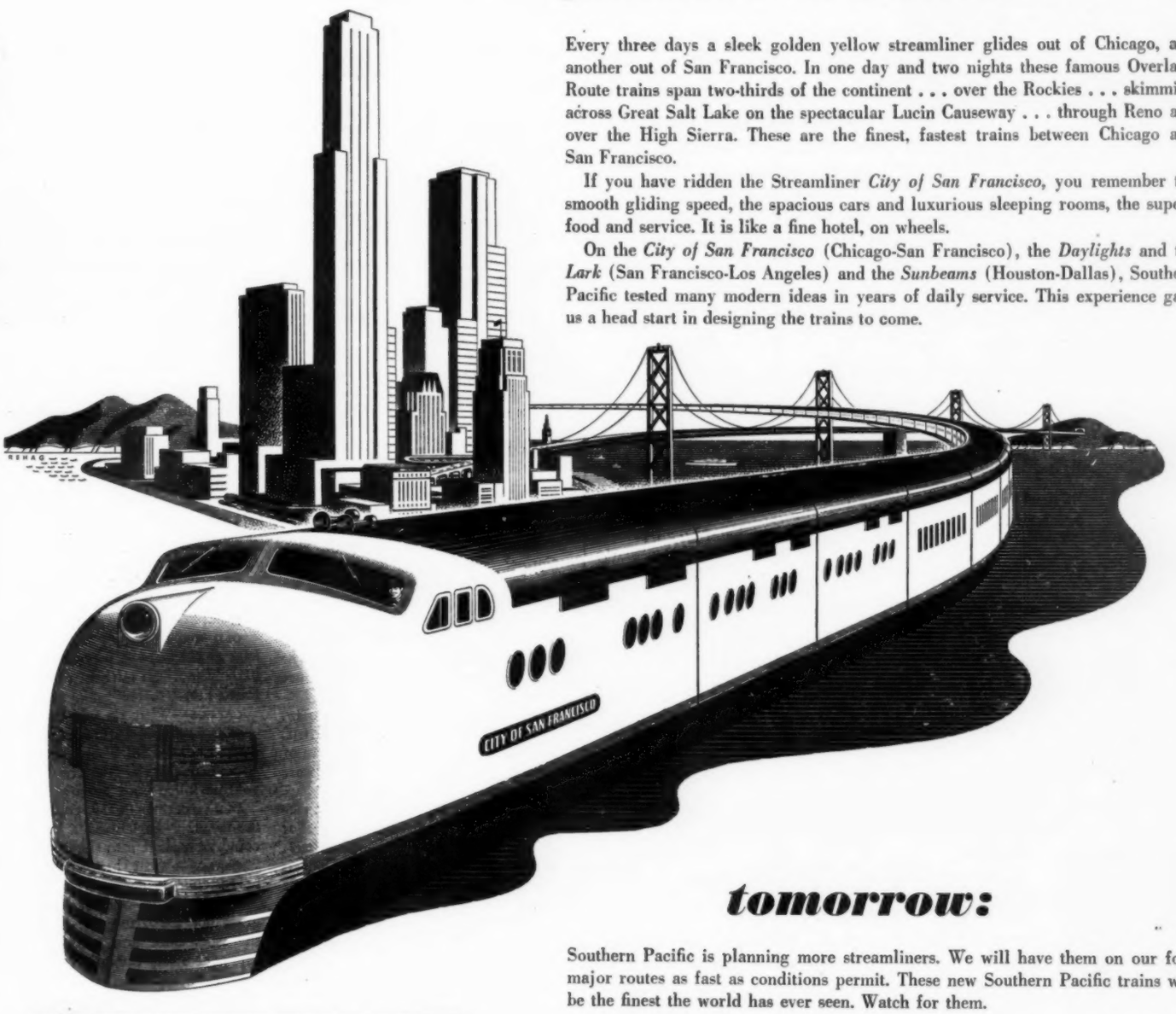
pacemaker for trains to come

Every three days a sleek golden yellow streamliner glides out of Chicago, and another out of San Francisco. In one day and two nights these famous Overland Route trains span two-thirds of the continent . . . over the Rockies . . . skimming across Great Salt Lake on the spectacular Lucin Causeway . . . through Reno and over the High Sierra. These are the finest, fastest trains between Chicago and San Francisco.

If you have ridden the Streamliner *City of San Francisco*, you remember the smooth gliding speed, the spacious cars and luxurious sleeping rooms, the superb food and service. It is like a fine hotel, on wheels.

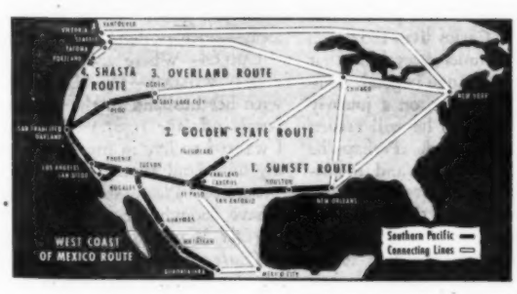
On the *City of San Francisco* (Chicago-San Francisco), the *Daylights* and the *Lark* (San Francisco-Los Angeles) and the *Sunbeams* (Houston-Dallas), Southern Pacific tested many modern ideas in years of daily service. This experience gave us a head start in designing the trains to come.



tomorrow:

Southern Pacific is planning more streamliners. We will have them on our four major routes as fast as conditions permit. These new Southern Pacific trains will be the finest the world has ever seen. Watch for them.

P. S. While Southern Pacific trains are still busy returning veterans to their homes, we believe that by summer travel conditions will be somewhere near normal again. So if you are planning a trip to California this summer, we look forward to the pleasure of having you as a guest on our trains. Be sure your ticket reads *Southern Pacific*, the West's greatest railroad—route of the *City of San Francisco*, the *Daylights*, the *Lark* and the *Sunbeams*.



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This series consists of 6 global maps dividing the earth's surface into the Americas, Atlantic Ocean, Africa and Europe, Eurasia, Australasia and Pacific Ocean. It also includes a map-symbol chart and an equal-area world map.

Helpful leaflet with each series

All these maps, in large-scale perspective, are readable at ordinary classroom distances and are particularly suitable for teaching beginners as they contain only map data easily grasped.

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Dr Scholl's ARCH SUPPORTS

There is a Dr. Scholl Foot Comfort Appliance or Remedy for Every Common Foot Trouble

Carlos Makes a Discovery

(Continued from page 35)

morning, saw it. He walked the whole way. (*Stands in front of Manuel.*) Papa, could I go? I too could walk. Then I should have something wonderful to paint.

MANUEL—You do not have to see a new volcano to make a picture. Look from our doorway any day and paint our beautiful mountain. But (*thoughtfully*) you are old enough to go. Yes, I think you may go to see Paricutin.

CARLOS (*amazed, delighted*)—I may go? Oh, Papa, thank you, thank you!

MANUEL—Agustin travels north again tomorrow. You can go most of the way with him, although you must return alone.

LUCIA—You had better send Carlos to Agustin to see whether he will take the boy with him.

MANUEL (*quietly*)—I have already spoken to Agustin.

CARLOS—But—how did you know?

MANUEL—I saw the look on your face while Agustin was telling us about Paricutin this morning. I knew what you would be asking.

CARLOS (*fervently*)—When I come back I will work night and day to help you, Papa.

MANUEL—You had better get your rest, now, traveler, for you start early tomorrow. Mama will give you a package of food and the warmest serape.

CARLOS—First, may I go out to see whether Alfredo is comfortable? I must tell him I am going away, so he will not waste all his strength searching for me.

CRISTINA—May I go with you, Carlos? Or (*teasing*) do you wish to be alone with Alfredo?

CARLOS (*affectionately*)—Come on, little tagalong.

(*Carlos and Cristina exit left.*)

LUCIA—Manuel, why do you let the boy go? I am afraid he may be hurt or lost.

MANUEL—He will soon be a man. He must learn to look out for himself. Some day he will have to take care of others. Let him learn now to care for himself.

LUCIA—But the work will be twice as hard for you with him gone. For all his dreaming, he is a good worker.

MANUEL—I can get along. This is a good time for him to go when he can travel at least part of the way with Agustin.

LUCIA—You are afraid for him, too.

MANUEL—Yes, Lucia, but I think we must let him go—with our blessing—or he might in time go without it. Besides, our Carlos lives too much in dreams. He thinks everything that is far away and strange is good. Perhaps when he has gone on a journey and seen this volcano he will return to us and be contented. Perhaps he will think our meadows and mountains are beautiful.

LUCIA—Sometimes I think you are very wise, Manuel.

MANUEL (*laughing*)—Only *sometimes*, Lucia? (*He rumples her hair teasingly.*) Anyway, I was wise *once* before—when I married you!

LUCIA (*laughing*)—I was the foolish one then!

SCENE 3

(*Enter Carlos and Agustin from stage right. They lower pottery which both are carrying. Carlos also has a flat case of drawing materials and a package of food.*)

AGUSTIN—You are a good traveler, Carlos, and you have been a help to me, carrying the pottery and selling it too.

CARLOS—I could not have come without you, Agustin.

AGUSTIN—Here is where I leave you. Another day's journey will bring you in sight of Paricutin.

CARLOS (*joyfully*)—Ah, I can hardly wait!

AGUSTIN—Take this bit of money. (*Carlos draws back.*) You have earned it by helping me, and you will need it to buy food when that package is empty.

CARLOS (*accepting the money*)—Thank you, Agustin. I will paint you a picture of Paricutin.

AGUSTIN—A picture—that would be fine, but I would rather have one of Popocatepetl.

CARLOS—But Popo has always been there. I have seen it several times myself.

AGUSTIN—Yes, but it is beautiful all the same. (*Picks up all the pottery, except one water jug.*) Adios, Carlos. May you have a good journey home. (*Exits upstage right.*)

CARLOS—Adios, Agustin. Thank you—thanks for everything. (*He watches Agustin go, sits on ground opens package of food, begins to eat.*)

(*Enter Old Woman from left. She slowly sits on ground, upstage left, head in hands, weeping.*)

CARLOS (*rising, speaks hesitatingly*)—Señora—Señora—What is your trouble?

OLD WOMAN (*turning slowly to look at Carlos*)—My poor burro, my little Trina. So faithful to me, and I failed her.

CARLOS—What do you mean?

OLD WOMAN—Paricutin—it is one wicked hill—it killed my Trina.

CARLOS (*puzzled*)—The beautiful volcano killed your burro?

OLD WOMAN (*with contempt*)—Beautiful? Paricutin? I wish I could trample it into the earth again.

CARLOS—What happened to your burro, your Trina?

OLD WOMAN—She was eating the grass not far from the house—and the ashes came and surrounded her. My poor little burro! I could not help her. (*Puts her head in her hands.*) My burro—my little house—all are gone. Only *I* could run away—with nothing but my life.

CARLOS—Where are you going?

OLD WOMAN—My daughter lives with her husband to the south. (*She points offstage right.*) I go to her. I wanted to live in my own house on my own land all my days.

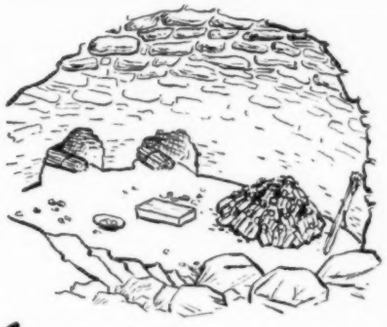
CARLOS—Please share my tortillas. I have enough for two.

(*Old Woman eats with Carlos.*)

(*Enter from left Musicians playing on various instruments. They halt downstage left and do a Spanish dance. Any musical number with Spanish rhythm may be used here.*)

(Continued on page 72)

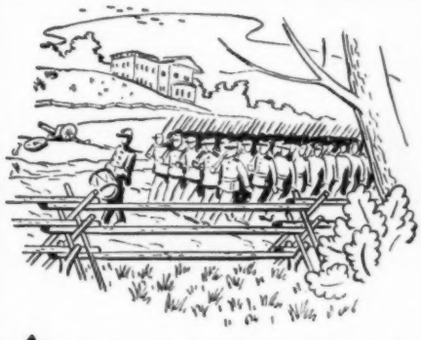
How The Peanut Became a Great American Crop



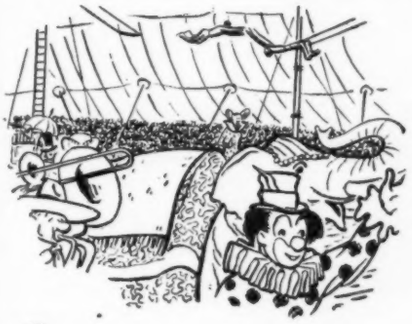
1 Of all the food plants native to our hemisphere few are woven more closely into our folklore than the peanut. Though no mention was made by earliest explorers of seeing peanuts here, "mani," as they were called, flourished in South America. Their pods have been found among mummy wrappings in Inca burials.

2 Peanuts came to our country as a by-product of the nefarious slave trade. South American conquistadores carried them first to Spain and thence to Africa where they were popular with the natives. In the 17th century, "goobers" were shipped back to the New World again as food for the slaves en route.

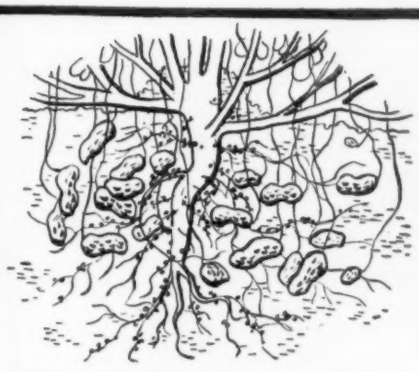
3 Nuts left over from these crossings were planted in the kitchen gardens of tidewater Virginia. By 1781 their cultivation had spread to the piedmont plateau where Jefferson lists them among the plants at Monticello. But the peanut continued as a regional curiosity rather than an agricultural crop for years.



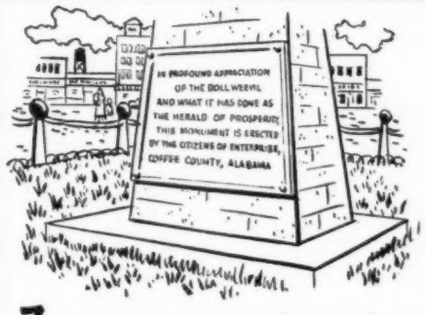
4 Then when Northern troops swept through the plantation country during the Civil War, Yankee soldiers discovered the peanut. After the armies disbanded, soldiers carried a taste for peanuts across the country, creating such a demand that peanut production increased 300 per cent within 5 years.



5 Soon peanuts had become an American habit. When the old-time circus came to town, feeding peanuts to the elephants was as traditional as the calliope, the clowns, pink lemonade, and the circus parade. Peanuts went to the county fair, to picnics, to ball games, to the penny arcade and the nickelodeon.



6 The peanut is more of a bean than a nut. It grows on a bush or vine bearing light yellow, long-stemmed flowers. When the flowers begin to shrivel and toughen the stems bend down, the pod tucks itself into the ground, and the peanuts finish ripening there.


IN PROFOUND APPRECIATION
OF THE BOLL WEEVIL
AND WHAT IT HAS DONE AS
THE HERALD OF PROSPERITY
THIS MONUMENT IS ERECTED
BY THE CITIZENS OF ENTERPRISE,
COFFEE COUNTY, ALABAMA

7 At harvest time the ground is plowed; the vines pulled up and shocked to dry; then the peanuts are machine cleaned and shelled. When the boll weevil attacked the cotton belt, the peanut saved large areas from ruin. One grateful Alabama town reared a monument to the boll weevil for its part in forcing them into this prosperous peanut culture.

8 The peanut that came to this country with the colored man and was nurtured by him, also yielded up its secrets to his race. For it was George Washington Carver, the great negro scientist of Tuskegee University, who discovered over 300 uses for the peanut, heralded its nutritive importance, and made the peanut one of our great agricultural crops.

9 Probably the most popular and familiar use for the peanut is in peanut butter. For years this was a dilatory item that grocers ground by hand. Then in 1909 H. J. Heinz Company prepared peanut butter from choice, roasted nuts by a special process that prevented oil separation and kept salt evenly distributed. Packed in hermetically sealed jars to assure freshness, Heinz Peanut Butter has become a national favorite, justly famed for its food value, its smooth texture and nutty, rich flavor.

57 H. J. HEINZ COMPANY 57

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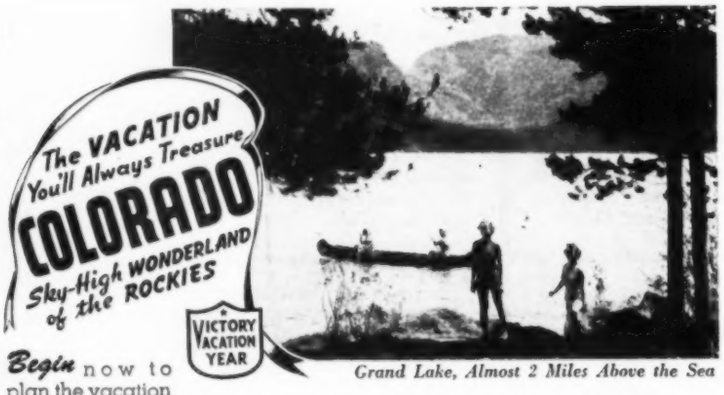

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Carlos Makes a Discovery

(Continued from page 70)

CARLOS (*applauding*)—Good, good! I am sorry I have so little money. (*Advances, holding out coin.*)

FIRST MUSICIAN (*shaking his head in refusal*)—No—if you are fleeing Paricutin you need your money.

CARLOS—I came to see Paricutin.

FIRST MUSICIAN—Then you will find others who need money more than I. But have you water to spare, boy?

CARLOS (*looking in jug*)—We can share it. (*Goes to Musicians, fills their cups.*)

MUSICIANS (*as Carlos gives them water*)—Thank you. Thank you.

CARLOS (*sitting down in the circle of Musicians*)—Then you have seen Paricutin?

SECOND MUSICIAN—That we have! The wicked hill!

CARLOS—Wicked! You called it wicked, too! Why? I thought it would be beautiful. I have come a long way to see Paricutin.

SECOND MUSICIAN—When you see it you will know why I say it is wicked.

OLD WOMAN—Paricutin robbed me of all I owned.

THIRD MUSICIAN—Si. And there are many others like you who left their broken houses and blackened land.

(*Enter left Refugees—a woman, a man, and two children, all carrying bundles or household articles. The children are crying quietly. They slowly cross stage and exit right.*)

FIRST MUSICIAN—Paricutin! There go more people whom the volcano has driven from their homes.

OLD WOMAN—Thank you, boy, for the food. May your home be safe. Adios! (*She exits.*)

SECOND MUSICIAN—We, too, must go on. (*Musicians prepare to leave.*) Will you join us, boy?

CARLOS—No, thank you. I must journey near enough to see Paricutin tomorrow!

FIRST MUSICIAN—Good-by, then. Give her our love.

(*Musicians laugh and exit right.*)

SCENE 4

(*The next day. Carlos is seated on the stone, drawing. Refugees from the volcanic region cross front of stage from left to right once or twice during scene.*)

CARLOS—Paricutin! I came so far to paint your ugly black head. (*Looks at drawing. Speaks to Paricutin, which is out of audience vision left.*) Do you like your portrait? No? Neither do I. I have looked at you for hours, and I like you less each minute.

ARTIST (*enters, carrying a large flat case under his arm*)—Greetings, friend.

CARLOS (*turning*)—Greetings.

ARTIST—This is a bleak land. (*He stands behind Carlos, looking offstage left.*) And there is the cause of all this desolation—Paricutin.

CARLOS (*vehemently*)—Paricutin is a monster. It has spoiled the land and driven people from their homes.

ARTIST—It is ugly, si. But it is wonderful, too. How like a king it rises from the ground! It is an unwanted ruler, but it has come to stay. (*Picks up paper Carlos has discarded, examines it.*) So—you are an artist?

CARLOS—No, not yet. I help my father with the burro and the crops, and I go to school. (*Impulsively.*) I would *like* to be an artist.

ARTIST—I say you *are* an artist. This is a good likeness of Paricutin. You see with the eyes of an artist.

CARLOS—I see with sad eyes, for I see how this volcano has taken the food from the people and has buried their homes.

ARTIST—True—true. I can see this sadness in your picture. That is one way I know you are an artist. You can get your feelings on the paper, as well as lines. But you have much to learn.

CARLOS—Are you an artist?

ARTIST (*sets up easel, as he talks*)—Well— I have murals in many buildings, and pictures in the art galleries, but that does not tell me I am an artist. There is something in me here (*puts hand on chest*) that tells me I am an artist, because I am most happy when I have a brush in my hand. Now for Paricutin.

CARLOS—You will not need paints. Only charcoal is needed for a portrait of the black Paricutin.

ARTIST—I think you are wrong, boy. Look again. Is that not purple in the shadow? And gold, just at the rim?

CARLOS (*excitedly*)—Yes, yes, and blue. I see blue there on the left. And rose! Just a touch of rose.

ARTIST—Now you are really seeing! This should be interesting to paint, but Mexico has much beautiful scenery. Our country is so full of beauty that an artist could paint all his life in his own front yard.

CARLOS—In his own front yard? (*Looks up, and gazes into space.*) Yes, there is a great mountain I can see from the door at home. Its color is never the same, and it wears snow on its head all summer.

ARTIST—And have you painted it many times?

CARLOS—I have never painted it. I like to make pictures of strange places I shall see someday—the tangled jungles of the Amazon—the great plains of the United States.

ARTIST—But how can you paint things you have not seen?

CARLOS—I imagine how they look.

ARTIST—It is good to imagine, but you will be a better artist if you paint what you see, also. Could you have imagined the blue and rose on Paricutin?

CARLOS (*slowly*)—No.

ARTIST—Work all the time—whenever you have a moment free. Decorate pottery, scratch pictures on stones, draw designs for serapes—work with your paints every day.

CARLOS—And that is the way to become an artist?

ARTIST—Yes—provided you have talent within yourself—the artist's eye—and I think you have.

CARLOS (*gathers up his things*)—Thank you, señor. Thank you, and good-by. I am going home now. I have been away long enough. There is a picture I must paint from my own front yard.

(*Continued on page 80*)

Ticktock Tinker

(*Continued from page 29*)

When Henry opened the case he found a jewel out of place. Carefully he replaced it. The watch did run better for awhile. Later on when Henry had learned some more about watches he corrected the trouble permanently.

At school one day his teacher remarked, "Henry, I didn't know you were so interested in geography."

The other pupils giggled. Henry grinned and said nothing. Behind the propped up geography book he was busily putting together a watch!

"We'll see how good a watch fixer he is," chuckled some boys one day as they extracted a box containing a watch from Henry's desk. Together, they took the watch completely apart. Not a screw nor spring remained in its original place.

There was much snickering as Henry removed the box from his desk. Behind his geography book he quietly went to work. In thirty minutes the watch was running!

Henry's hobby stood him in good stead a few years later when he went to work in a machine shop. His wages were $2.50 per week, and his living expenses were $3.50. To earn the difference, he began cleaning clocks for a Mr. Magill for fifty cents an evening.

One night Henry arrived early at the shop. There was a pile of watches awaiting repair. So Henry began on them. When Mr. Magill discovered Henry's activity he was alarmed. But after carefully examining the lad's work he made him a permanent watch repairman.

In 1940 when Mr. Magill's shop was restored in a now famous historical village, Henry, past seventy years of age, repaired that old watch of Adolph Culling's at a replica of his first workbench.

"Henry, where is your watchglass?" asked one of his friends.

"Never used one, and I don't have to use one now," twinkled Henry Ford.

EDITORIAL NOTE: The facts on which this story is based are found in *Henry Ford—His Life—His Work—His Genius*, by William A. Simonds (Bobbs-Merrill).

Begin Design with a Bit of Twine

(*Continued from page 38*)

It is very important, and the teacher should emphasize this point, that the string should not be lifted for a second trial. In such an attempt lies indecision, which is the greatest foe of free expression.

The pupil is instructed to follow the lines of the string with a crayon mark (violet is the best color for this), making the mark conform as nearly as possible to the turns of the string. The string is then removed, and broken lines are completed. The crayon marks can then be made much darker by pressing down on the crayon. The paper is unfolded and refolded into halves, the crayon lines being on the inside.

With the side of a pencil or other object the paper is rubbed until the marks come off on the opposite fourth of the paper—or the paper can be held against the window and the lines traced. These lines, too, are strengthened. Next the paper is folded in the opposite direction so that the design may be traced on the other half of the paper. Then these lines are darkened to conform to the first half of the design. If parts of the design are disconnected, the pupils may add a few lines to join all parts into one complete figure.

At this point the children are ready to color the design. They should use the same colors in all four parts reversing them to balance the design. If the pupils have had no experience in choosing colors, they may select three crayons at random for their color scheme.

One seventh-grade class which tried out this lesson found in the lines resemblances to real objects. The pupils added a few new lines in order to increase the resemblance, and their designs became semiabstract. A few members of the class chose to use water colors to fill in the spaces.

The teacher will see that many possibilities are inherent in this lesson. The class can try lines upon one fourth of the paper without the string, and proceed as before—or upon one half of the paper and eventually draw the lines on the entire page with no folding and no string, and without trying to keep the design equally divided either horizontally or vertically.

EDUCATION IS NOT A DESTINATION . . . IT IS A JOURNEY . . . ALWAYS, WE ARE EN ROUTE

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The physical barriers of the earth's surface have troubled the human mind for centuries; therefore, the opinions of our ancestors about these barriers should not continue to influence our lives today. Enlightened opinion of the world's new "smallness" is essential as the basis for thinking if mankind is to utilize all that air transportation makes possible.

Teachers and school administrators, through their logical position of leadership in shaping our intellectual life, have a deep responsibility to accept and disseminate the true significance of the use of air. If men are to benefit by their new proximity to each other, they must understand not only the machinery but also the *meaning* of air travel.

We invite your participation and welcome your comments. Please write for a free copy of "Air Age Education News."

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What Is India?

(Continued from page 33)

LOW SOLO—Who are we and what is man, compared with our mighty mountains?

ALL—We are India—

LOW—An India of teeming millions;

MEDIUM—Millions on the watered plains,

LOW SOLO—Washed by ancient rivers,

MEDIUM SOLO—Washed by holy rivers—

HIGH—The Ganges and the Indus.

ALL—We are India—

HIGH—Land of the blesséd monsoon,

MEDIUM SOLO—Carrying rain to dry, parched earth,

LOW SOLO—Bringing food to hungry mouths;

HIGH—Land of the blesséd monsoon.

ALL—We are India—

HIGH SOLO—Land of the evil monsoon,

LOW SOLO—Land of the luckless monsoon.

ALL (*bemoaning*)—Oh, evil monsoon! Oh, luckless monsoon!

HIGH (*quickly*)—You flood our lands.

LOW (*quickly*)—You ruin our crops.

MEDIUM (*slower*)—You leave us hungry.

LOW (*slower*)—You bring us sickness.

ALL (*very slow*)—You make us die.

HIGH SOLO—Oh, evil monsoon!

MEDIUM SOLO—Oh, luckless monsoon!

LOW SOLO—Oh, blesséd monsoon!

ALL—We are India.

HIGH SOLO—We are rich and we are poor.

MEDIUM—The world once sought our wealth.

LOW—Yet we are poor.

HIGH SOLO—Men sought our spices and our jewels and the delicate fabrics of our looms.

LOW—Yet we are poor.

MEDIUM SOLO—Men seek our wheat and rice, our cotton and our jute.

LOW—Yet we are poor.

HIGH SOLO—Our forests shelter the wild elephant, and the one-horned rhinoceros, and birds that are rich in plumage.

LOW—Yet we are poor.

MEDIUM SOLO—The domes of our splendid temples, white marble and gold, gleam in the midday sun.

LOW—Yet we are poor.

HIGH SOLO—Our poets sing.

MEDIUM SOLO—Our wise men teach.

LOW SOLO—Our artists paint.

LOW—Yet we are poor.

LOW SOLO—War came—a call to arms.

ALL—War came—a call to arms.

MEDIUM SOLO—Our big factories hummed.

HIGH SOLO—Our women served.

LOW SOLO—Our mothers cried.

MEDIUM—Our soldiers marched.

LOW SOLO—Our men—

ALL (*sadly*)—They died

MEDIUM SOLO—In Africa's heat.

HIGH SOLO—On Cassino's heights.

ALL—And we gained the praise of the world.

LOW—Yet we are poor.

HIGH SOLO (*impatiently*)—What do you want, you who are poor, though rich? Speak!

LOW (*ruefully*)—Ah, what do we want, we who are poor, though rich?

HIGH SOLO—Speak, Gandhi, the Great-Souled! Speak, Gandhi, our friend, our savior!

GANDHI—We want our mountains.

ALL—We want our mountains.

GANDHI—We want our rivers.

ALL—We want our rivers.

GANDHI—We want our valleys.

ALL—We want our valleys.

GANDHI—We want our land.

ALL—We want our land.

GANDHI—We want our freedom.

ALL—We want our freedom.

GANDHI—We want our India.

ALL—We want our India.

AUTHOR'S NOTE: This program was presented by a group of boys from ten to twelve years of age in an opportunity school as their contribution to a unit assembly, after studying about India.

For Good Personal Appearance

(Continued from page 18)

clothes, and do I conserve them by changing into sport togs or old clothes when I play?

8. Do I wear too many accessories and pieces of cheap jewelry?

9. Am I provided with a clean handkerchief, which I use when necessary?

10. Do I have any little personal habits which detract from my appearance?

Much help can be given in the hygiene, health, and physical education classes. In these courses children learn about proper bathing, care of skin, hair, and teeth, healthful exercise, good posture, and other things which affect personal appearance.

Pupils will enjoy having someone from outside the classroom come in to talk and give demonstrations. The school nurse can offer much valuable advice in a tactful way—her training has taught her how to appeal to children. The art teacher can give a practical lesson on choosing and combining colors, and the domestic-science teacher can talk about styles, materials, and care of clothing.

In this field there are many well-written and attractively illustrated books and magazines for younger and older girls and boys. Stories and articles relating to appearance will be read avidly, for children in general want to look well. Excellent charts, pamphlets, pictures, and exhibits are sent free or at small cost by companies manufacturing soaps, dentifrices, shampoos, and similar products. Suitable pictures and advertisements, cut from magazines, can be collected for bulletin boards, scrapbooks, posters, and other exhibition purposes.

If guidance in personal appearance is effective, the teacher will find that keeping clean, being well groomed, and caring for themselves in other ways will become a regular part of her pupils' daily routine.

From such a program they will gain in health and happiness. Their self-confidence and poise will be increased, for a child—like an adult—needs to have the assurance that he looks right and merits the approval of his associates.

His Brighter Little Sister

(Continued from page 26)

Talks with the parents of the children concerned will usually prove to be of value. If they can be kept from exploiting the brighter child, and can be induced to grow in appreciation of the slower child, the lot of both children will be happier.

Finally, the sympathetic understanding of the teacher will go far toward making school a happy experience. Never will she humiliate the older child; she knows that he is suffering enough as it is. And because of the wealth of satisfying experiences which she provides for her young charges, differentiating both instruction and outside activities according to varying needs, she may one day be rewarded by hearing a former pupil speak of "our best year in school—the year that my sister and I were both in the same class."

A Friend of Isabella's

(Continued from page 29)

"Say no, Mother," urged Rosa.

"Rosa, I'm not going to say no," replied her mother. "It is true that we really do need Maria's help. But if this matter means so much to her, she shall have her chance."

"Oh, thank you so much, Mother," said Maria, kissing her. "I'm going to practice right now."

At last came the great day when the girls were chosen for their parts in the pageant. Maria left for school happily and with confidence that morning; but one look at her face when she returned home confirmed Señora Sanchez' fears that she had been disappointed.

"You didn't make it?" the mother asked.

Maria burst into tears. "No," she said, "but Isabella was chosen. And I heard that horrid Señorita Jimenez say to Señorita Garcia that she didn't see how I could ever have thought of trying!"

That evening Maria joined her mother and sister at the loom. Rosa started to make a remark about the singing, but her mother gave her a warning look.

"Can Isabella do drawn work?" she asked.

"I don't know," replied Maria. "She never said anything about it. I don't suppose she has to. Her family has so much money."

"Ask her, anyway, sometime," said her mother.

A couple of days later Maria came home from school, again quite excited. "Mother," she said, "I asked Isabella whether she ever did any fancywork and she said no. Then she went home and told her mother about the drawn work that we do here; and her mother said she would like to see some of it. And Mother," she added dramatically, "Isabella and her mother will both be here Saturday to look it over."

Maria got up earlier on Saturday morning than she had ever done before. Never had her mother seen her so eager to do her part of the cleaning, and more.

When Isabella and her mother arrived that afternoon, they exclaimed over the beautiful handwork on the loom, and also over other pieces that Señora Sanchez showed them. Then she brought out a dresser scarf with a flower design so delicate and beautiful that it seemed as if fairy hands must have drawn it. "Maria did this," she said.

Señora Velasquez turned to Maria in amazement. "Maria!" she exclaimed. "This is exquisite! You and Isabella are the same age, but she can't do any fancywork at all. Even if she practiced for a long time, I am sure she could never equal your skill. Isabella is naturally clumsy with her fingers."

Maria glanced at Isabella anxiously, but Isabella was smiling. She d.d not seem to mind.

"Isabella is a fine singer, is she not?" asked Señora Sanchez.

"Yes," replied Señora Velasquez, "she has a gift that way. And your daughter certainly has a gift, too. I think they make a very good pair. May we have Maria over next Tuesday evening to dine with us?"

Maria's eyes danced.

"Thank you," Señora Sanchez replied. "I know Maria will be delighted. I am very glad that she and Isabella are friends."

Pillsbury Institute of Flour Milling History

presents

The History of Wheat

through

THE TALKING MILLSTONES

by CAMILLA WING

TEACHER'S MANUAL *co-edited by*

Irene Hemphill
Supervisor, Lower Elementary Grades
Albany, N. Y., Public Schools

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Director, Pillsbury Institute of Flour Milling History

1500 A.D.	1700 A.D.	1800 A.D.
Wheat was first introduced into Western Hemisphere by Columbus in 1493 when he visited West Indies.	Colonists brought wheat with them to Jamestown and Plymouth.	Floating Mill used for grinding wheat into flour. Oliver Evans invented the Hopper Boy.

. . : Follow the Time Line . . . . . Picture History . . . . . Of Wheat . . . . . Continued . : :

UNIT III. THE TALKING MILLSTONES

Desired Outcomes

1. To learn that the early colonists brought wheat seed with them.
2. To develop a realization that the present way of wheat farming differs from that of the colonial methods and that modern methods are the product of the past.
3. To learn that the water mill was an important source of power used during colonial times to grind wheat.

Developing the unit in third and fourth grades

A. Topics for Research and Discussion

1. Read to find out who first brought wheat to the New World, to what is now United States.
2. Why do you think that the colonists brought wheat seed with them?
3. Describe the life of a colonial family during: (a) Planting time (b) Harvesting time (c) Threshing time.
4. What kind of farm tools did the colonists use?
5. Why was the miller an important person in a community?

B. Laboratory Experiences

1. Get from your library the following books:
   Science Experiences With Home Equipment by Carleton Lynde.
   Perform the experiment on page 82 to find out that water has pressure.
2. How was water power utilized in colonial times?

C. Suggestive Activities

1. Collect and mount pictures showing the colonial wheat farmer at work.
2. Draw pictures of colonial farmers at work.
3. Make a model colonial farm in one corner of the room or on a sand table.
4. Draw a diagram of a water mill.
5. Make a survey on colonial tools which may be in your community. Borrow them and plan a colonial exhibit at school. Dress in colonial clothes. Invite your parents to the exhibit and tell them how the colonial wheat farmers used the different tools.
6. Plan and serve at the exhibit a colonial wheat bisquit.

Developing the unit in intermediate and upper grades

A. Topics for Research and Discussion

1. What was meant by "setting up" a new tradesman in colonial days?
2. Explain how the water mill ground the wheat.
3. Read and find how the force of flowing water was used for grinding wheat.
4. Tell how the following wheels were operated to utilize the force of flowing water: (a) Undershot wheel (b) Overshot wheel (c) Breast wheel.
5. Read to find out how the modern Pelton wheel and the modern turbine wheel operate.
6. Why aren't farm families today as independent as the colonial farm families were?

B. Laboratory Experiences

1. Get from your library the following books:
   Science Experiences With Home Equipment by Carleton Lynde.
2. Read the directions on page 62 and 63 on how to make simple water wheels from coffee can covers. Follow the directions given and make one.
3. Read the directions on page 64 and make your water wheel drive a spool by the use of water power.

C. Suggestive Activities

1. If there is a museum near your school, make a trip to see articles used by the colonists or pioneers of early days.
2. Visit a flour mill in the neighborhood. Compare the local process with ancient and colonial milling.
3. Draw a diagram of the following types of wheels: (a) Undershot wheel (b) Overshot wheel (c) Breast wheel. Have your diagrams show how they were used to utilize water power.
4. Write an original play on "Talking Millstones" (The story of Colonial Times). Give it for an assembly program.
5. Make a time line for this unit which you may continue when you study the next unit.

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SOURCES FOR TEACHING MATERIALS

American Institute of Baking, 9 Rockefeller Plaza, New York
Bur. of Agri. Econ. Department of Agriculture
Pillsbury Institute of Flour Milling History, Minneapolis, Minn.
Wheat Flour Institute, 309 W. Jackson Boulevard, Chicago, Ill.

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Pioneer Life in America

(*Continued from page 31*)

forced to turn back by an Indian attack. At that time the only way to go west was on foot or on horseback. The Indian trail through Cumberland Gap was not wide enough for wagons.

In 1775, as agent for a North Carolina company, Boone built a fort on the Kentucky River, on the site of the present Boonesboro. He and his family, and other settlers, were in constant danger from unfriendly Indians. They had neither schools nor churches. Their homes were crude; their food was mostly wild game. While on an expedition to get salt, Boone was captured by the Indians, and taken to Detroit, but after living as one of them for four months he escaped. Later he pushed farther west.

Because the pioneers wanted to travel back east at times, Daniel Boone directed the building of "Boone's Trace," later known as the Wilderness Road, through the woods. This was merely a path wide enough for a pack horse, but by means of it thousands of farmers moved to Kentucky and Tennessee.

Since it was unsafe for a small group to travel by themselves on this road, large parties would go together—men, women, and children—taking horses packed with provisions, along with cattle and other animals. Most of the adults walked. Women sometimes rode, holding children on their laps, and other children were swung in baskets over the backs of horses. Each night they all camped in the open.

What Life Was Like for a Pioneer Family

The families settled miles apart, so that each one was definitely "on its own."

The first thing a family did, after clearing a plot of ground, was to plant corn and begin building a "half-faced" camp. The camp was located near water but not in a marshy region; indeed, the cabin was built on a knoll on the highest available land.

Such a camp was started by taking two forked limbs and fixing them in the ground some distance from a fallen tree. A pole was stretched from fork to fork. Other poles were laid from it to the log, and over them brush was piled to form a roof. The two ends were hung with skins, or filled with logs which were rolled into place. The front was left open, and a big fire was built outside in cold weather. Sometimes the front, as well as the two ends, was hung with skins. As a young boy, Abraham Lincoln lived in such a camp.

At first a pioneer family had to live on wild game and on corn meal brought from the old home. If this diet was continued for too long a time, their health suffered. Therefore, the growth of vegetables in their garden was watched with eagerness and anxiety. A family raised quantities of corn, wheat, pumpkins, squash, and potatoes. Their meat consisted of pork, venison, bear meat, and wild turkey. From the forest they got berries, honey, and the sap from which maple sugar is made.

Except for the few tools which they had been able to bring with them, their farm implements consisted of homemade tools. All were hand-operated. For instance, they cut their wheat with the cradle, an instrument with a shining curved blade and long wooden fingers. The men and boys threshed the wheat with a flail, two sticks of wood fastened together with leather strips.

As soon as possible, they constructed a one-room-and-loft log hut. They notched the logs at the corners to fit them together. The cracks between logs were filled with mud. The main room was usually seven or eight feet high. At one end a huge fireplace was built. Logs were laid from side to side to form a ceiling, the loft above being reached by means of a ladder and a trap door. Usually the boys of the family slept in the loft, on straw spread on the floor. This upper room was unheated.

The roof was made of boards, with weight poles laid across them to hold them in place. At first the floor was hard dirt; later logs were split and placed flat side up. These were called *puncheons*. Openings for windows and doors were sawed out of the logs. The doors were heavy pieces of split timber, fastened to a crosspiece by means of wooden pins and hung with wooden hinges. The latch also was of wood. Attached to it was a string which could be pushed through a hole to the outside. When the string was pulled, the door would open; if the string was inside, the latch could not be worked except by persons in the house. Thus originated the saying, "Our latchstring is always out for you," to indicate that a person is a welcome guest. In the windows, oiled paper or skins were used.

The furniture consisted of rough, uncomfortable wooden pieces put together with pegs. Clothing was hung on pegs driven into the wall. For tableware and dishes, a family had wooden spoons, hunting knives, wooden bowls, gourds, and hard-shell squashes. Later pewter was brought from the East.

The heat and much of the light came from the fireplace, where all the cooking was done. When the women had time, they made candles by the method used in colonial days. But often the women worked outdoors with the men.

The children had their allotted tasks. The girls learned to keep house, cook, make sugar and soap, shear sheep, spin, weave, and sew. The boys learned to tan skins and make brooms, they helped get honey from the hives of wild bees, and they built fences. Girls as well as boys learned to shoot well with a rifle, in order to protect themselves and to get food in an emergency.

For the most part, the clothes came from materials obtained on the farm or in the forest. The men and boys had shirts, leggings, and moccasins of deerskin. Their caps were usually coonskins. The trousers, and sometimes the shirts, were a mixture of linen and wool known as *linsey-woolsey*. The women wore petticoats

(*Continued on page 77*)

Pioneer Life in America

(*Continued from page 76*)

and a one-piece dress of linsey-woolsey. A homemade handkerchief or sunbonnet served as head covering. In warm weather they went barefoot, in cold weather they wore moccasins. The girls dressed much like their mothers.

Every settlement had a fort into which the women and children hurried when an Indian attack was threatened. At each corner of the fort a blockhouse was built with portholes at regular intervals. The walls were bullet-proof. The whole structure was built without a single nail.

As settlements grew, schoolhouses and churches were built. These were crude log cabins with split logs for benches. The school subjects were whatever the schoolmaster knew how to teach, writing being considered the most important. The books used were any that were available. The Bible was always read.

The greatest source of pleasure for these people was a wedding. The ceremony was performed at noon, after which there was a big dinner, followed by dancing, which sometimes lasted all night. The Fourth of July, Thanksgiving, and Christmas were always celebrated by the pioneers. Sometimes, at other seasons, families joined together in a house-raising, husking bee, or quilting bee, all of which were hard work, but which were enjoyed because they brought people together.

Beginning of the Great Westward Migration

When George Rogers Clark had made the area between the Alleghenies and the Mississippi safer for the settlers, many families started from Pittsburgh down the Ohio River in flatboats. One of the first settlements was Marietta, Ohio. All the land now comprising Ohio, Michigan, Indiana, Illinois, and Wisconsin was offered by the government to settlers at very low prices. Soon the rivers became jammed with rafts carrying people, supplies, and cattle.

Some hardy pioneers traveled all the way by ox-drawn wagons. Often they had to cut down trees so that the wagons might get through. Deep mud slowed them down. Rivers had to be forded. It was at this time that road-building was begun. In 1818 the government built the Cumberland Road for one hundred thirty miles through the mountains. Later this was extended across Ohio and Indiana into Illinois. It was then called the National Road.

The life of pioneers in the West was hard, but they lived closer together than the first settlers in the South, and had government protection. Transportation back to the East improved constantly. The Erie Canal was built; the steamboat and the railroad train revolutionized transportation. Trade became easier, more people moved west of the mountains, the Indians were pushed farther and farther away.

With the purchase of the Louisiana Territory in 1803, the pioneers were free to cross the Mississippi into the land beyond. They traveled in three ways: by boat on the Ohio, Mississippi, and Missouri; overland in a covered wagon as a family; in a caravan of many covered wagons.

The southern pioneer settled from Missouri south, taking with him his slaves as well as his family and household goods. The lone pioneer from the North usually settled in the rich lands of Iowa, Nebraska, and the Dakotas. The life of this pioneer was much like that of the settler east of the Mississippi—hard, courageous, lonely, dangerous. The one great difference was in the type of shelter.

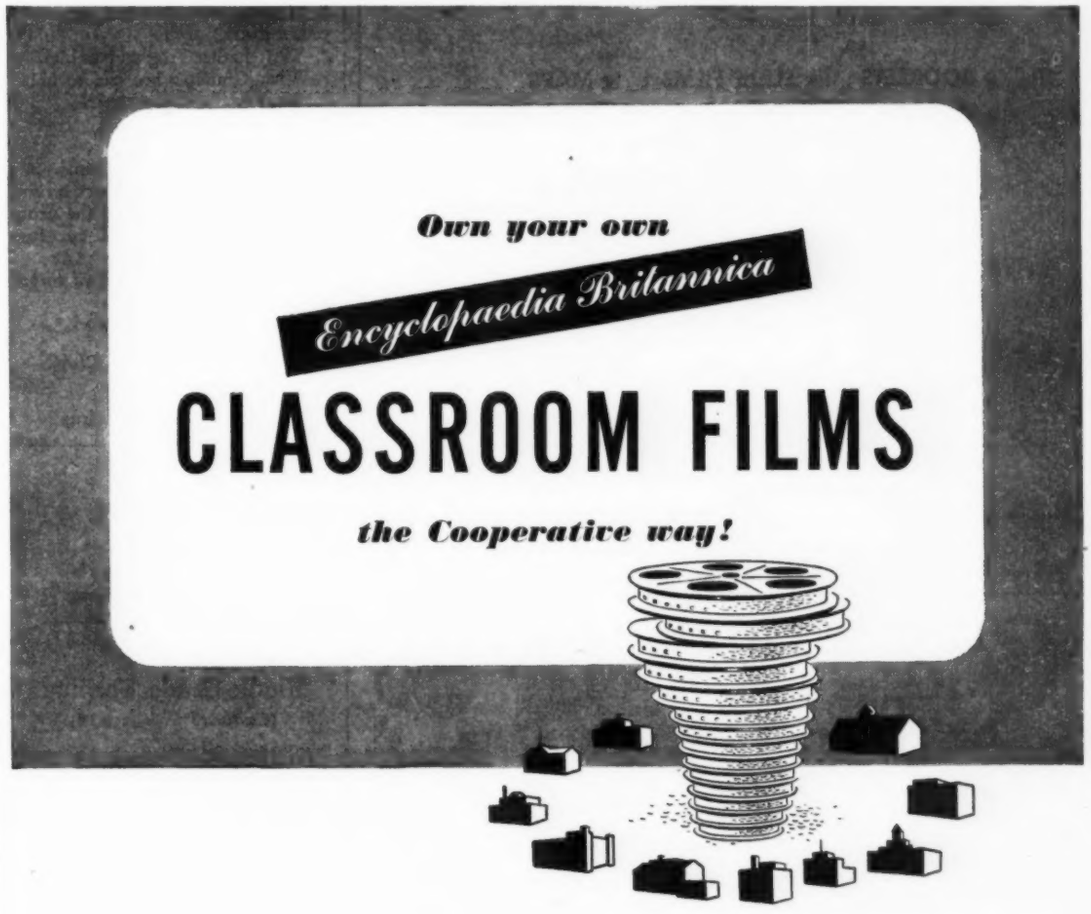
In this section there were many places where no trees grew and where the farmer at first made his house of sod. Later, after lumber had been imported and sawmills established, more comfortable homes were built.

To make a sod house, the settler cut blocks of sod from the prairie, piling one upon another to form the walls. Traveling to the nearest river, he found saplings which he cut and laid across the walls to support the roof. The roof was made of more sod blocks. As villages grew up, sod schoolhouses were built. School was held in summer, or at other times when weather permitted and children could be spared from the farms.

TOPICS FOR STUDY

1. The Adventures of Daniel Boone.
2. The Construction of a Fort.
3. How the Pioneers Used Corn.
4. Churches in Pioneer Days.
5. How an Indian Attack Was Met.
6. The Process of Making Linsey-Woolsey.

(*Continued on page 84*)



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Primary Reading

(*Continued from page 14*)

CLASS PROCEDURE

A. Answers to assigned questions.
1. Mr. Turtle came by.
2. He told Freddie to look again in the water. When Freddie's tears fell into the water, the other frogs were not there. So Freddie knew it was himself that he had seen there each time he looked.

B. Review phrases.—Read through the phrases on the blackboard once, quickly.

C. Reread to find these facts.
1. How Freddie felt when he got the yellow pants.
2. What Father Frog said to him.
3. What Grandmother said to him.
4. What he did at the water.
5. His surprise.
6. His disappointment.
7. What Mr. Turtle told him.

D. Pleasure reading.—If there is time, let different pupils read the story from start to finish, just for fun, without interruption.

E. Keep a list of words missed to put on flash cards.

F. Show and explain seatwork.

SEATWORK AFTER CLASS

A. What kind of?

_____ _____ _____ frog
_____ pants _____ _____ coat
_____ vest _____ vest

B. Who did this?
Who gave Freddie the vest?
Who gave him the coat?
Who gave him the pants?
Who said, "You need a coat"?
Who said, "How fine you look!"?
Who came along to help Freddie?

Middle-Grade Spelling

(*Continued from page 14*)

11. How did you change the words in column one to make them plural? (Simply added *s*.)

12. How did you change the words in column two to make them plural? (Changed the *y* to *i* and added *es*.)

13. In doing this you have discovered a spelling rule that will help you always in forming plurals of words that end in *y*. Who will state this rule? (When a singular word ending in *y* has a vowel before the *y*, we form the plural by simply adding *s*. When a singular word ending in *y* has a consonant before the *y*, we change the *y* to *i* and add *es*.)

14. Please erase your lists. Now I shall give you a few singular words ending in *y*, but I shall mix them up instead of giving all of one kind at a time as I did when you were beginning to discover the rule.

15. Before you change this list of singular words to plural, what must you look for? (The letter that comes before the *y*.)

16. To be sure that you notice it, draw a circle around it each time.

17. Now, remembering the rule, change each word in the list to make it plural.

This step-by-step routine may seem to some teachers too long-drawn-out for the "simple" principle involved. But experience has shown that pupils tend to write *baies* and *babys* for the

(*Continued on page 79*)

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THE WORLD OVER

Middle-Grade Spelling

(*Continued from page 78*)

plural of *bay* and *baby* unless they really understand the reason for the rule. Encircling the letter before the *y* is very important during the learning process.

This whole routine, from step 13 on, will need to be repeated occasionally in order to fix the idea in pupils' minds firmly enough for it to become automatic.

How Much Drill in Arithmetic?

(*Continued from page 21*)

need not carry the burden of maintaining this skill. From the sum total of drill items for fifth grade can be deducted the number of such items that would have been required to maintain subtraction of unlike fractions.

Out of a total of, let us say, one thousand drill items on the four fundamental processes of arithmetic, if nine hundred were concerned with addition, and the one hundred remaining were divided among the other processes, the pupils affected would probably add with speed and accuracy but exhibit little working knowledge of subtraction, multiplication, and division. Such a program would be decidedly out of balance, yet the total number of drill items would be high. By balancing them judiciously, a teacher would achieve far better results with half as many items.

It is possible, likewise, to waste a large percentage of the drill items on any given process by bunching them at some point during the year. Satisfactory results can be achieved with an economy of drill examples and a saving in pupil time when drills are properly balanced as to process and properly distributed as to amount.

A minimum of drill is required if that minimum is used in connection with worked-out models, diagnosis and remedial instruction, and a readiness program. Keeping drill at a minimum means that there will be additional class time for applying the subject to everyday living.

Drill will increase speed and accuracy of response up to the point of diminishing returns. At that point a 100% increase in drill items will produce less than a 100% increase in speed and accuracy. As this point is approached in the arithmetical program, the teacher should carefully evaluate drill in its relation to the development of the ability to think quantitatively. Adding machines can be purchased, but no machine has been devised, or ever will be devised, to do our thinking for us. When children become adults, the ability to analyze and think through the problems that they meet will be of far greater value to them than facility in handling figures.

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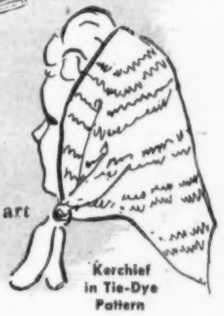

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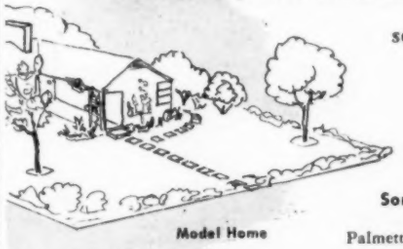

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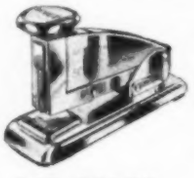

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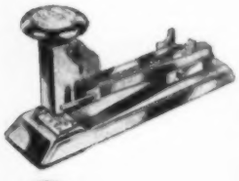

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Carlos Makes a Discovery

(*Continued from page 72*)

GUIDE TO PRONUNCIATION

adios: a-de-os′
Agustin: ah-goos-teen′
Alfredo: al-fray′ do
Carlos: car′ los
Cristina: cris-tee′ nah
Lucia: lu-see′ ah
mama: mah-mah′
Manuel: mah-noo-el′
papa: pah-pah′
Paricutin: par-i-coo-teen′
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Popocatepetl: po-po-kah-tay′ petl
Pulido: poo-lee′ do
señor: say-nyor′
señora: say-nyo′ rah
serape: sa-rah′ pay
si: see
sombrero: som-bray′ ro
tortilla: tor-teel′ lyah
Trina: tre-na′

EDITORIAL NOTE: Paricutin Volcano first manifested itself on February 20, 1943. Several months later its cone had reached a height of 1500 feet and the lava covered more than ten square miles. All vegetation was destroyed over a considerably greater area. In *The National Geographic Magazine* for February 1944 there is an illustrated article about the phenomenon, entitled "Paricutin, the Cornfield That Grew a Volcano."

The Flittermouse House

(*Continued from page 28*)

it was funny. He said, "Now if this isn't what I'd call a mess with my initials on it! A three-story, three-room house and no stairway! No stair rails! No stair carpets! No front door! No attic!"

And then he saw his cloud's silver lining, plain as plain.

"No attic, no flittermouse!" he chuckled. "The flittermouse has left me of his own free will. Well, it's an ill wind that doesn't un-flittermouse some poor mortal's house."

He chuckled and chuckled and took out his mouth harp and played a cheerful tune. And then he went to tell Charlie Chester.

Charlie Chester said, "This, Uncle, is more in my line. I'll take my tools and set your house back in place and mend it!"

His uncle said, "Nothing of the kind, C. C. I am rid of that unwelcome flittermouse and I'll stay rid of him. I'll live in a house that has no attic. Can you build a stairway?"

Charlie Chester said he could.

"You bring lumber then and make me a stairway to my second story. If I like the stairway, you may then make me one to my third story. You can also make me a new front door. I am about to enjoy carefree living."

So Charlie Chester took his tool kit and some lumber and went back with his uncle to the upended house and started to make a front door. He hadn't finished sawing the planks when his uncle stopped him.

"Well, it's just no use, C.C.," old Mr. Householder said. "My good luck couldn't last. The flittermouse is back. He has now moved into the top room, which used to be my back room."

Charlie Chester put down his saw. He said, "The flittermouse can't do that, Uncle; it isn't fair."

"I know he can't and I know it isn't, but he has done it. What was my kitchen before the rain is now my attic. Once landlord to a flittermouse, always landlord to a flittermouse."

Charlie Chester said, "I'm not for giving in to him, Uncle. I'll build a birdhouse. The thing has wings; perhaps he'll move into the birdhouse."

Charlie Chester made a very neat birdhouse and painted it blue and nailed it to a pole. The flittermouse paid no attention. Within a week a tree toad moved into the birdhouse and seemed to like it well enough.

Charlie Chester made a dollhouse and painted it white and set it up beside the upended house. The flittermouse paid no attention, and after some time a colony of bees moved into the dollhouse and started making old Mr. Householder some excellent clover honey.

Now that Charlie Chester had started building the kind of houses he knew how to build he couldn't seem to stop. He built a doghouse and painted it green and put it on the other side of the upended house. The flittermouse not only stayed out of it, but every other living thing stayed out of it.

All this time old Mr. Householder was staying at Charlie Chester's. He was so disappointed about the flittermouse that he didn't have the heart to do a thing about having his upended house repaired.

Then one morning at breakfast Charlie Chester said, "Uncle, I'm still not for giving in. Would you consider keeping a small cow?"

Old Mr. Householder said, "Why not?" and by the way he said it he showed that his spirits were low. But by encouraging him Charlie Chester finally got him started off to look for a small cow.

Then Charlie Chester built a small barn near where the house had stood before it went sliding through the mud to the bottom of the hill. The small barn had a low attic with one small window. Over the window Charlie Chester painted FLITTERMOUSE ENTRANCE and under the window he painted COW DOOR BELOW.

By the time the paint was dry, and before old Mr. Householder was back with the cow, the flittermouse had moved into the attic of the barn!

The cow's name was Katie Betty and she was an amiable animal and never seemed to mind having a flittermouse in her attic. She always used the lower door and never so much as looked in at the Flittermouse entrance.

Old Mr. Householder was so proud and happy that people came from miles around to look at him. So many came that Charlie Chester had all the help he needed in setting the upended house back where it belonged. Of course all the dishes were broken, but nobody minded. Old Mr. Householder traded the doghouse and the promise of a gallon of clover honey for a new set of dishes with yellow sunflowers on them.

Isn't it funny how a separate house doesn't seem to mean a thing to a flittermouse! All that he really needs is an attic.

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THROUGH CHEMISTRY

Transportation Pictures

(Continued from page 39)

Sometimes it is fun to ask children to make pictures of long trains winding through many kinds of scenery: (1) crossing the Arizona desert with large cacti close by and mountains in the distance, (2) going into or coming out of a tunnel, (3) going through an evergreen forest, (4) stopping at a station in New Mexico where Indians are selling blankets and jewelry.

In the third and fourth grades some children will want to draw the earliest trains, with women and men in old-fashioned costumes boarding the trains or bidding good-by to their friends and relatives.

Some will like to draw a close-up view of a dining car, or a porter standing on the steps of a Pullman.

When it comes to drawing automobiles, adults never cease to be surprised by the detailed knowledge of cars that most children have. Often, however, they have difficulty in drawing the car as a whole. Children who live in northern cities will like to draw cars in a March blizzard, almost completely covered with wet snow, or people trying to shovel their cars out of drifts. Some will draw dramatic pictures of cars traveling in a blizzard, a sandstorm, or a flood.

Those who draw pictures of lake freighters piled high with new automobiles, or of trucks carrying new cars, will have a colorful scene, for the colors of the cars can range from red, through green, deep blue, gray, and tan, to black.

A child who has had the experience of meeting many huge trucks traveling at night will like to draw a night picture of such a scene.

Some children will draw trailers and station wagons. Others will paint a bus five feet long and put in many details—a man stowing luggage in the lower part of the bus, and heads of persons showing in each window; perhaps in the background a rocky shore line and a very blue lake, and in the foreground birch trees or evergreens, and people dressed in slacks, lumberjack shirts, and other outing apparel.

Children who have traveled by airplane may like to draw pictures of farms and roads seen from the air, or fields that look like a patchwork quilt. One fourth-grade boy who had never been in a plane made a wonderful "air view" of the Nile River when the class studied Egypt.

The more talented pupils will want to draw pictures of a big airport with many planes, people going aboard, and one of the little carts that carry food for the passengers' meals.

Sometimes the teacher can stimulate the children by saying as she mentions suitable subjects for drawings, "These are the pictures I should be painting now if I had time." Her word descriptions will make them say, "I have a good idea! Let's start."

ANALYZE HANDWRITING

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Director of Kellogg's Home Economics Department Battle Creek, Michigan

DO YOU PRACTICE WHAT YOU TEACH?

WE talk a lot about food in our Home Economics Department, especially about breakfasts. One of the girls who was in the school-lunch field before coming here knows from experience how many pupils go to school without breakfast. She believes that teachers can have great influence in encouraging better breakfast habits. Their first job, she says, is to practice what they teach!

Of course, teachers are rushed—as everyone is these days. All of us enjoy an extra fifteen minutes under the warm covers after the alarm goes off — but these minutes should not be subtracted from breakfast time. Set the alarm for earlier! Have your extra nap and breakfast, too. You will discover that it pays.

Then urge your pupils to do the same.

BREAKFAST CAN BE QUICK

Do you know about our Kellogg Breakfast Bowl? It is quick and easy, yet offers a lot of good nutrition. It is a combination of any ready-to-eat cereal served with fruit and milk—and there is a different Kellogg cereal for every day, if you want a change. I really practice what I preach—eat a cereal-bowl breakfast and get to the office by eight thirty, too, every morning.

Fruit, too, offers a wide choice. Make your own combinations. For March, however, I especially recommend Kellogg's Pep, with stewed prunes and milk.

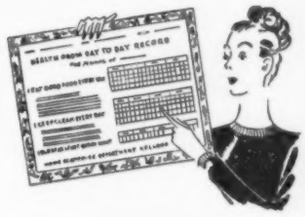
PEP FOR MARCH!

Pep is particularly good for March because of its Vitamin D content. March is such a blustery, grey, sunless month, most places, that we are likely to get too little Vitamin D. Children need this vitamin for strong bones and sturdy teeth.

WHAT PEP OFFERS

Kellogg's Pep is a delicious, wheat-flake cereal, made from the whole grain. It contains the whole-wheat values of niacin and iron with added thiamine. It is further fortified by the addition of Vitamin D. And a *substantial* amount of Vitamin D! Just a one-ounce serving of Pep supplies the minimum daily allowance desirable for children.

In this connection, you will be glad to know that all Kellogg cereals are either made from the whole grain or restored to whole-grain levels of thiamine, niacin and iron.



PARENTS APPRECIATE IT! CHILDREN ENJOY IT!

This attractive chart was developed by our Home Economics Department to encourage better health habits among pupils. On it, youngsters keep a record of their daily health habits. Upon request, we will gladly send you one for each child. Simply fill out the coupon in the coupon section of this magazine. Let pupils take the chart home to use; check it in the classroom each week. It makes a game out of forming health habits. Parents will thank you, too!

Mary I. Barber, DIRECTOR
HOME ECONOMICS DEPARTMENT

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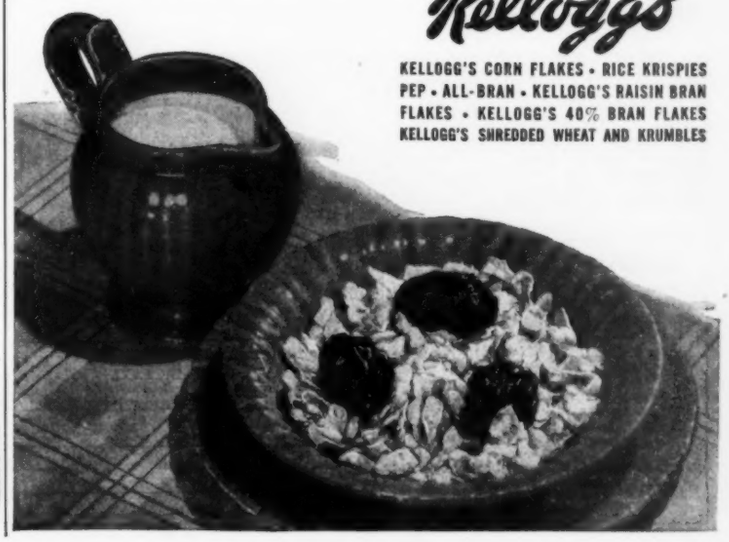

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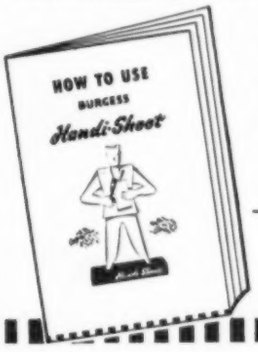

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16-1966 DeVry 16mm sound-on-film projector.

Separate amplifier and speaker provides portable P.A. facilities.

DISTINGUISHED . . .

for its watchlike qualities . . . famed for its precisioned mechanism—that's the new DeVRY 16mm. SOUND-ON-FILM PROJECTOR—a beautiful, modern, streamlined portable projector built with steel-forge toughness plus the jeweler's infinite skill . . . and designed like a fine watch for years of day-in, day-out trouble-free service. The new DeVRY is a 3-purpose projector that (1) SAFELY projects BOTH sound and silent films; (2) that shows BOTH black-and-white and color films without extra equipment; and (3) whose separately housed 25-watt amplifier and sturdy 12-inch electro-dynamic speaker afford portable Public Address facilities—indoors and out. DeVRY CORPORATION, 1111 Armitage Ave., Chicago 14.

Only 5-time winner of Army-Navy "E" award for motion picture sound equipment.

DEVRY

ORIGINATORS & IMPROVERS OF PORTABLE MOTION PICTURE EQUIPMENT . . . SINCE 1913

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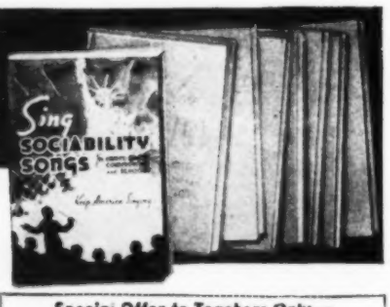

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224 Songs With words and music, ideal for school use. Contains:

12 Patriotic Songs
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Please send me a sample copy of SOCIABILITY SONGS. I enclose 10c.

Name_____

School_____ Grade you Teach_____

Address_____

City_____ State_____

Some Aspects of Conservation

(Continued from page 17)

5. Use a toothbrush daily.
6. Play outdoors each day.
7. Wash hands before eating.
8. Wash hands after using toilet and always remember to flush the toilet.
9. Keep hands away from mouth, nose, and ears.
10. Cover mouth when sneezing and coughing.
11. Stay home when you have a cold.

The children dramatized health activities many times during the free periods. By listening to their conversation I learned that they were trying to keep the health rules.

Favorite songs, poems, and stories that fitted into the unit were used.

If your pupils are mature enough, you can list on the blackboard the things they should conserve. Our kindergarten children learned to read these few words: *conserve, toys, paper, clothes, light, water, health.*

OUTCOMES

A. The children took an interest in the idea of conserving.
B. They increased their vocabulary.
C. They acquired ease in speaking before a group.
D. Their imaginations were developed through dramatic play.
E. Their information was enlarged through stories, poems, and songs about the unit.
F. They showed acceptance of responsibility.
G. They co-operated willingly.

Acting Out a Story

(Continued from page 15)

enjoying it, and understanding the personalities of the characters. The actors added to or modified the conversation in the text. It was interesting to see how the dialogue changed from day to day.

As a result of their experiences in carrying out this dramatization, the children came to realize the importance of making careful plans before starting work, and yet being ready to change those plans occasionally. They learned to stay with a job until it was finished, to take the initiative sometimes, to share and accept responsibility, and to ask for help when necessary. They learned to accept appraisal and criticism from the group and from the teacher, and saw the importance of being courteous and calm at all times. They were fully composed as they assumed the responsibility of carrying on the program without any help from adults. They gave a creditable performance.

Through this activity, practical reading experiences were integrated with both oral and written language. The children helped to formulate plans, which the teacher recorded, and to prepare invitations, which they later copied and took home. Making the story into a play and helping the announcer plan his speech provided excellent language experiences for all. The reasons for exercising care in pronunciation and enunciation became more apparent. Art, too, was successfully integrated, through the painting and construction activities which provided all the scenery and stage properties required for a successful dramatic production.

Keys to Tests

(Continued from pages 22–23)

BUYING AND SELLING GOODS

I. 1. g 2. d 3. h 4. a 5. b 6. c 7. l 8. m 9. f 10. e 11. n 12. i 13. o 14. k 15. j

II. 1. a discount of 30%
2. the gross profit
3. per cents
4. no
5. statements
6. (a) paid in full, with date and name of person receiving payment; (b) payment received, with firm name, date, and initial of clerk
7. an inventory
8. turnover

III. 1. (a) $350; (b) $225
2. He lost. $1.00
3. (a) $5.00; (b) 20%; (c) 16⅔%
4. (a) $314.12; (b) $253.65
5. (a) $243; (b) $4,617

FAMOUS BUILDINGS

1. g 2. b 3. j 4. m 5. n 6. k 7. f 8. c 9. d 10. h 11. s 12. o 13. i 14. a 15. t 16. q 17. p 18. u 19. l 20. r 21. e

THE NEW ENGLAND STATES

I. 1. a 2. b 3. b 4. a 5. c 6. b

II. 1. maple sugar
2. Atlantic Coastal Plain
3. naval stores
4. Connecticut
5. Potatoes
6. Boston
7. cod

III. Amherst (Mass.)
Yale (Conn.)
Dartmouth (N.H.)
Harvard (Mass.)
Mount Holyoke (Mass.)
Smith (Mass.)
Wellesley (Mass.)
Williams (Mass.)
Brown (R.I.)
Radcliffe (Mass.)

IV. 1. b 2. d 3. c 4. f 5. a 6. e

V. 1. good harbors, world trade, shipping
2. mountains, several crops, small farms
3. sailing, fishing, shipbuilding
4. mountains, water power, factories
5. lumbering, naval stores, shipbuilding

VI. 1. T 2. T 3. T 4. F 5. T 6. F 7. T

SAFETY OUT OF DOORS

1. look in both directions
2. remove skates and walk
3. in the road
4. must
5. Only one person
6. left
7. look before you go
8. paper
9. unsafe
10. may not be safe
11. wrap around an electric wire
12. Never

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New York City

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Perfect location and friendly service have made the Prince George the favorite New York hotel of educators. 4 restaurants, coffee shop. 3 minutes from famous stores. 1,000 large rooms, with bath. Single, $2.50 up. Double, $4.00 up. 14 East 28th St. Send for Booklet. Charles F. Rogers, Jr., Mgr.

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Stanley Hotel—delightful, informal surroundings.

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N. Ott Engraving Co., 1042 Chestnut St., Philadelphia, Pa.

East, West . . . You're Canada's Guest

(Continued from page 68)

of breeze-blessed travel. You may cruise on all the Great Lakes—or along the Pacific coast to Alaska—or, on the Atlantic side of the continent, to Labrador and Newfoundland. One who has become air-minded will find that planes take off just as regularly and as smoothly from Canadian airports as from any other.

In the cities there are some of the finest hotels in North America, along with less pretentious lodging places. In the Dominion's national parks and other recreational areas, available accommodations sometimes range from tents to châteaus.

By the way, Canada has gone all-out for national parks. Altogether, some 29,700 square miles have been set aside by the government to preserve the grandeur of natural scenery, to conserve wild life and commemorate historical events. The principal scenic and recreational parks are Banff (which includes Lake Louise), Jasper, and Waterton Lakes in Alberta; Kootenay, Yoho, Glacier, and Mount Revelstoke in British Columbia; Prince Albert in Saskatchewan; and Riding Mountain in Manitoba. In Ontario there are three smaller recreational parks under Dominion control—Point Pelee on Lake Erie, Georgian Bay Islands, and St. Lawrence Islands. On the Atlantic coast one finds Cape Breton Highlands and Prince Edward Island parks.

In Alberta are two national sanctuaries for buffalo and the prong-horned antelope—Elk Island and Nemiskam. The outstanding historical parks are Fort Anne in Nova Scotia and Fort Beausejour in New Brunswick. In addition, the various provinces have set aside areas that correspond to state parks in the United States.

Of course there are many places, outside these park areas, that are attractive to vacationists. You will find out about some of them through friends, or will come across a mention of them in your reading. Others, we hope, you will discover for yourself. There is nothing that quite equals the thrill of one's own private discoveries—an unexpected view, a quaint restaurant, a challenging golf course, an ideal camping spot, or what have you!

Going to Canada is not like going to a foreign country, and yet there are enough differences in ways and backgrounds to give piquancy to the experience. Visiting the Dominion is no more complicated than paying a visit to your cousin in a neighboring state. However, you probably wouldn't start out without letting your cousin know, even if you had a standing invitation; and this year, particularly, Canada asks that—so far as practicable—you make reservations in advance. As for formalities at the border, they are kept to a minimum. The procedure is very simple. You won't need a passport.

Once in the Dominion, you will find that *East, West . . . you're Canada's guest!*

DEAR READER: Don't forget to fill out the Entry Blank on page 68, so that you can participate in THE INSTRUCTOR'S 1946 Travel Contest.—*Travel Editor.*

3 SCIENTIFICALLY PLANNED TEACHING UNITS ON RAYON

...For GRADES 1 to 3

WHAT ARE MY CLOTHES MADE OF?

The Clothes I Wear *(#301B)*—A reader-coloring book telling the sources of our clothing and the clothes we wear for different seasons. Specially written for primary pupils. Little text . . . gay illustrations for young students to color.

Easy-To-Use Lesson Plan *(#301A)*—A suggested lesson on the sources of our clothing, carefully planned to motivate student activity.

Teachers' Leaflet *(#300)*—Basic information on rayon . . . accurate, up-to-date and easy to follow. For the teacher's own reference files.

...For GRADES 4 to 6

WHAT IS RAYON?

Man-Made Miracle *(#302B)*—The story of rayon told in the cartoon form that is so effective at these age levels. The subject matter is designed to appeal to Intermediate Graders' curiosity about the origin of familiar things.

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Teachers' Leaflet *(#300)*—Basic information on rayon . . . accurate, up-to-date and easy to follow. For the teacher's own reference files—and also for pupils' library or research activity.

...For GRADES 7 to 9

HOW IS RAYON MADE?

Rayon—The Story of a Man-Made Fiber *(#300)*—A reference leaflet for students' use explaining the simple, basic steps in the making of rayon. Easy to read and accurate. Contains information not usually available in ordinary textbooks.

Easy-To-Use Lesson Plan *(#303A)*—A suggested lesson on the key steps in making rayon. Not too technical, but designed to awaken Grammar Grade students' interest in the world of science.

Students' Work Book *(#303B)*—To be used to summarize the rayon lesson—or in conjunction with a project on Clothing, Textiles or World of Science. Easy-to-grade, objective questions—multiple choice, word building, etc.

Today, any study of clothing requires an understanding of rayon—the basic textile fiber that ranks second in use in modern fabrics. To help you bring the story of rayon to your students, we have prepared the new type of teaching material described above. It is scientifically graded, in separate, complete units for Primary, Intermediate and Grammar levels. Each unit includes a carefully organized lesson plan for your own use—and effective material to stimulate students' interest in the lesson.

You'll find that you will be able to use these units in teaching the sources of clothing, the care of clothing, the world of science . . . and also to add interest and variety to reading, spelling, health and geography classes.

AVAILABLE WITHOUT COST . . . USE COUPON ON PAGE 88

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CROWN TESTED RAYON FABRIC

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Formal studies can be pursued under refreshing climatic conditions in one of the accredited units of the Greater University of Montana. Informal research or study or just plain pleasure, can be indulged in wherever you are in the state.

Montana is a huge commonwealth spread up the eastern slope of the great continental divide and across its apex. It comprises the great plains, the rich agricultural valleys, the rivers and lakes, the mountains and forests that lie between Glacier and Yellowstone national parks.

Its attractions are varied and its weather ideal. Nights are cool—the days brilliant. Fishing is a year-round sport; hunting in season. Swimming, riding, dude ranching, sight seeing, hiking, camping, picture taking, Indian ceremonials and rodeos are natural entertainment.

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Please send me information about
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ADDRESS _____
802

Pioneer Life in America

(Continued from page 77)

THINGS TO DO

1. Pick out an interesting and dramatic event in Boone's life and dramatize it.
2. Make a model blockhouse.
3. Construct a fort.
4. Build a log cabin.
5. Make a flatboat and arrange small articles on it as samples of goods carried by pioneers.
6. Collect early American items from the community and arrange a display.
7. Plan a debate. Question: "Was the Indian justified in his treatment of the white man?"

Models We Have Constructed

(Continued from page 24)

more of it was available, we found that mottled wallpaper served the purpose better than construction paper. In several cases crayons were used to give castles the appearance of masonry and vines. Towers were capped with construction-paper or painted cones.

Wallpaper paste, mixed in small amounts as needed, is better for this type of construction than regular paste. It can be spread freely, stays moist during the adjusting and trimming of the paper, and draws it smooth and stiff when dry. We use disposable cardboard paste spreaders. Paste brushes must be washed every night. An old saw-edged bread knife is ideal for cutting up cartons and is the only special tool required for this work.

Pueblos were made on the same principle as the castles—of boxes arranged in varied tiers, access being gained by notched logs or tiny ladders of twigs. Clay pottery and cutout figures added vivacity to the scene, as did a backdrop of desert and mountain scenery in bright paints.

Constructing models widens pupils' experiences by means of tangible objects, it develops manual skills, and it arouses the interest of the largest possible number of children in any group—not only in the actual work but in the correlated subject.

Using Color Miniatures

(See pages 42–43)

Plan an exhibition of color miniatures on a screen which can be moved from one classroom to another to enable all the girls and boys to study your collection.

Arrange them so that each miniature is displayed in a manner to enhance its beauty. There must be no crowding nor must the pictures be spotted too far apart. Since they are so small, mount each on a 6" x 9" piece of white or cream paper.

Four placed together (but not touching) would form a large rectangle. Half a dozen more might stretch out in a horizontal line. Be sure that there are no diagonal lines.

If the screen is an attractive color, simply pin the pictures on it. If it is soiled or faded, use large pieces of colored paper for a background.

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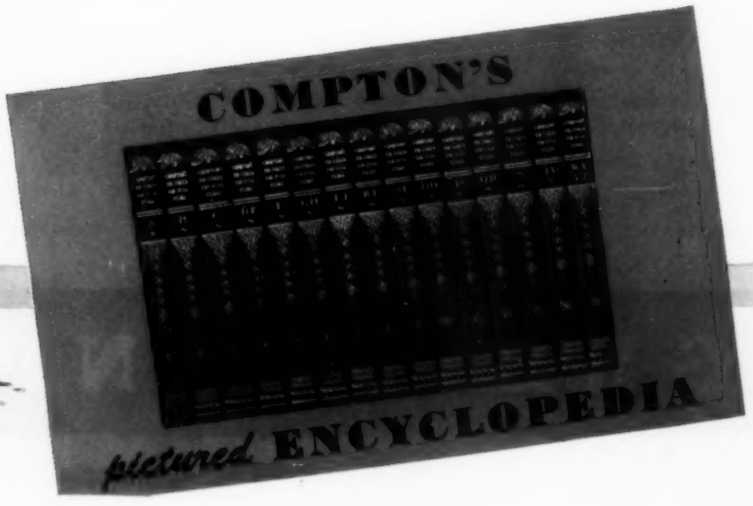
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